

# February 2025 Monthly Compliance Report

Solid Waste Permit No. 588  
Bristol Integrated Solid Waste Management Facility  
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## INTRODUCTION

On behalf of the City of Bristol, Virginia (City), SCS Engineers has prepared this report to the Virginia Department of Environmental Quality (VDEQ) in accordance with Item 8.iii in Appendix A of the Consent Decree between the City and VDEQ. This report provides updates regarding the progress towards completion of the items outlined in Appendix A of the Consent Decree between the City and VDEQ. The following sections outline progress during the month of February 2025 related to Solid Waste Permit (SWP) No. 588.

## 1.0 GAS COLLECTION

The following sections describe the steps the City, in collaboration with its consultants and contractors, has taken to improve the operation, monitoring, and performance of the facility's landfill gas collection and control system (GCCS).

### 1.1 SURFACE AND LEACHATE COLLECTION EMISSIONS

#### 1.1.1 Surface Emissions

SCS performed surface emissions monitoring on February 4, 2025; February 10, 2025; February 17, 2025; and February 24, 2025. These weekly surface emissions monitoring (SEM) events were performed in accordance with Item 1.i in Appendix A of the Consent Decree between the City and VDEQ. SCS also performs quarterly SEM at the landfill in accordance with regulatory requirements.

The details and results of the SEM are included in Appendix A. A summary of the outcomes is provided in Table 1.

Table 1. Summary of January Surface Emissions Monitoring

Description	February 4, 2025	February 10, 2025	February 17, 2025	February 24, 2025
Number of Points Sampled	168	168	167	167
Number of Points in Serpentine Route	100	100	100	100
Number of Points at Surface Cover Penetrations	68	68	67	67
Number of Exceedances	2	1	1	3
Number of Serpentine Exceedances	0	0	0	0
Number of Pipe Penetration Exceedances	2	1	1	3

In response to the SEM results, the City and the City's operations, monitoring, and maintenance contractor, SCS Field Services O&M (SCS-FS or SCS-FS) took the following actions:

- In response to a pipe penetration exceedance at EW-75, SCS-FS increased the vacuum at EW-75. Monitoring of this well during a follow-up event did not result in an exceedance.
- In response to a pipe penetration exceedance at EW-95, SCS-FS increased the vacuum at EW-95 on February 25, 2024. Monitoring of this well during a follow-up event did not result in an exceedance.
- In response to a pipe penetration exceedance at EW-76, SCS-FS increased the vacuum at EW-76.
- Pipe penetration exceedances occurred on February 24, 2025 at EW-53, EW-54, and EW-66 when those wells were disconnected for maintenance. Those wells were subsequently re-connected once the maintenance activities were completed.

### 1.1.2 Monitoring of Leachate Collection Components

SCS Field Services (SCS-FS) visited the Bristol Landfill on February 17, 26, and 27, 2025, and performed monitoring of the leachate, witness zone, northern cleanouts, and gradient control cleanouts at the southern end of the landfill. The results of that monitoring are included in Table 2.

Table 2. Leachate Cleanout Pipe Monitoring Results

Description	ID#	Record Date	CH4 (% by Vol)	CO2 (% by Vol)	O2 (% by Vol)	Balance Gas (% by Vol)	Initial Temp (°F)	Adj Temp (°F)	Initial Static Pressure (in H2O)	Adj Static Pressure (in H2O)	System Pressure (in H2O)
Southern Cleanouts Gradient West	LC01	2/17/2025 8:10:40 AM	55.3	39.8	1.1	3.8	39.7	40.2	-15.81	-16.72	-18.19
Southern Cleanouts Gradient East	LC02	2/17/2025 8:15:06 AM	30.5	25.0	11.0	33.5	29.1	29.2	-18.16	-18.16	-18.26
Southern Cleanouts Leachate Center	LC03	2/17/2025 8:22:26 AM	7.9	4.7	19.4	68.0	26.9	26.8	-18.07	-17.99	-18.54
Southern Cleanouts Witness East	LC04	2/17/2025 8:27:13 AM	3.1	1.9	20.9	74.1	30.8	30.3	-4.71	-4.82	-18.35
Southern Cleanouts Leachate West	LC05	2/17/2025 8:30:52 AM	53.2	43.8	0.7	2.3	40.9	40.8	-18.51	-18.13	-18.51
Southern Cleanouts Gradient Center West	LC06	2/17/2025 8:35:46 AM	30.3	16.6	11.2	41.9	29.6	29.5	-16.02	-16.12	-18.32
Southern Cleanouts Leachate East	LC08	2/17/2025 8:41:55 AM	15.8	11.7	16.2	56.3	30.9	30.9	-18.27	-18.36	-18.76
Southern Cleanouts Gradient Center East	LC09	2/26/2025 12:33:36 PM	51.9	48.1	0.0	0.0	59.4	59.2	-4.97	-4.93	-18.82
Southern Cleanouts Leachate West	LC10	2/26/2025 12:37:22 PM	51.2	48.8	0.0	0.0	61.2	61.1	-17.29	-17.45	-19.20
Northern Cleanouts Leachate East	NC01	2/26/2025 12:47:58 PM	27.8	17.3	11.7	43.2	66.1	65.6	-4.90	-4.54	0.00
Northern Cleanouts Leachate Center	NC02	2/26/2025 12:50:13 PM	24.4	15.0	12.9	47.7	66.8	66.8	-5.02	-5.41	0.00
Northern Cleanouts Leachate West	NC03	2/26/2025 12:52:22 PM	10.1	5.6	17.6	66.7	66.9	66.9	-4.31	-4.34	0.00
Northern Cleanouts Witness East	NC04	2/26/2025 2:21:46 PM	59.5	36.2	0.0	4.4	66.2	66.0	-2.05	-2.04	0.00
Northern Cleanouts Witness Center	NC05	2/26/2025 2:24:02 PM	55.4	37.7	0.5	6.4	66.4	66.4	-2.38	-2.29	0.00

Description	ID#	Record Date	CH4 (% by Vol)	CO2 (% by Vol)	O2 (% by Vol)	Balance Gas (% by Vol)	Initial Temp (°F)	Adj Temp (°F)	Initial Static Pressure (in H2O)	Adj Static Pressure (in H2O)	System Pressure (in H2O)
Northern Cleanouts Witness West	NC06	2/26/2025 2:25:43 PM	12.7	7.5	17.1	62.8	66.0	66.1	-2.70	-2.69	0.00
Northern Cleanouts Gradient East	NC07	2/27/2025 2:41:39 PM	64.1	34.6	0.0	1.4	56.3	56.3	-4.34	-4.38	0.00
Northern Cleanouts Gradient Center East	NC08	2/27/2025 2:43:19 PM	49.1	33.9	3.4	13.6	55.8	55.8	-4.38	-4.37	0.00
Northern Cleanouts Gradient Center West	NC09	2/27/2025 2:45:53 PM	0.1	0.2	21.5	78.2	58.6	61.1	-5.07	-5.07	0.00
Northern Cleanouts Gradient West	NC10	2/27/2025 2:47:39 PM	7.9	4.0	18.9	69.3	60.2	60.4	-4.47	-4.47	-0.01

## 1.2 EXISTING GAS EXTRACTION SYSTEM PERFORMANCE

SCS and SCS-FS have been coordinating with the City to improve the performance of the existing gas system. Specific actions taken to maintain and improve the system are detailed in the following sections of this report.

Additional actions taken by SCS-FS include the following:

- Adjustments to LFGCCS
- Maintenance of air lines and pressurized air infrastructure
- Maintenance of wellhead and other gas collection infrastructure
- Removal of liquids from landfill gas headers

Replacement of a section of blocked forcemain.

## 1.3 REMOTE MONITORING SYSTEM

In the Fall of 2022, SCS Remote Monitoring & Control (SCS-RMC) installed 25 industrial internet of things (IIoT) temperature sensors in the landfill gas wellheads. The purpose of the sensors is to record and transmit wellhead gas temperatures via cellular connection to a database managed by SCS-RMC. Since the initial installation, some sensors have been relocated and additional sensors have been added to the network. There are currently 59 wellhead temperature sensors operating within the wellfield.

The City is providing the minimum, maximum, and average daily temperature recorded by each sensor to VDEQ on a daily basis via email. Minimum, maximum, and average daily temperatures recorded by the remote monitoring system during the month of February are included in Appendix C. In addition, SCS previously prepared semi-monthly status updates to satisfy the conditions of compliance provision no. 2 of the Environmental Protection Agency (EPA) Region III letter, Approval of Higher Operating Temperature Values for Landfill Gas Wells and Submission of Gas Treatment Alternatives at the Bristol Virginia Integrated Solid Waste Management Facility, dated August 23, 2021. On August 2, 2023, VDEQ requested that such updates be included in the monthly compliance reports. Accordingly, this section is a summary of temperature monitoring activities during the monthly monitoring period of February 2025.

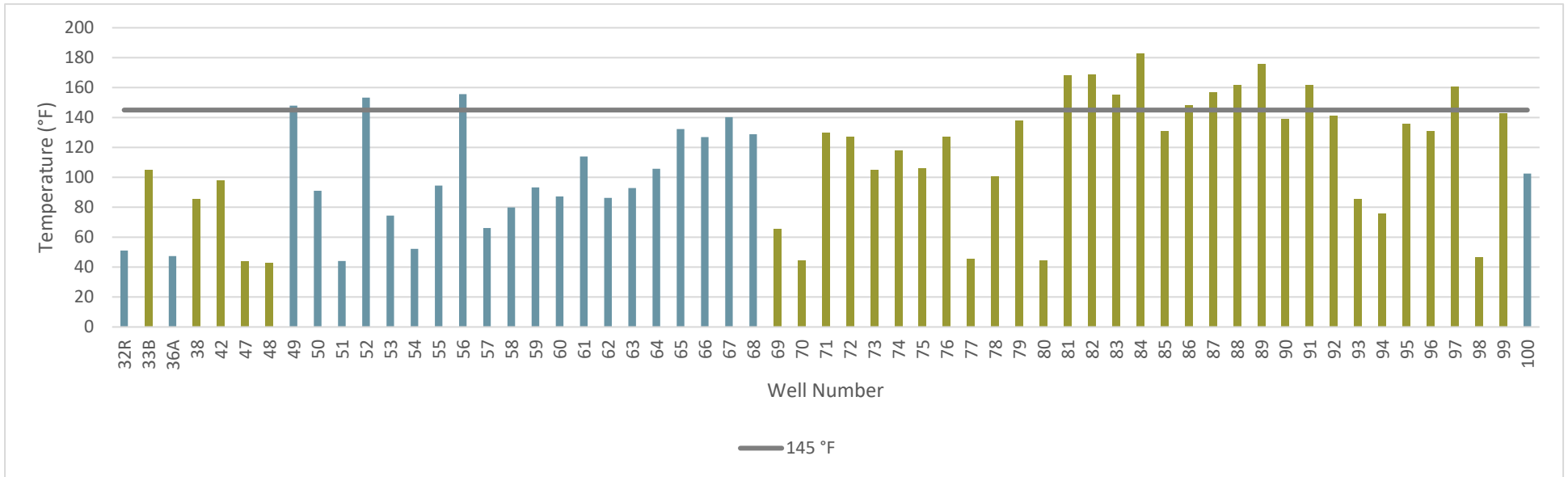
### 1.3.1 Automated Wellhead Temperature Measurements

SCS reviewed the automated hourly temperature measurements from February 2025, and observed the following:

- **Wells with new sensors:** The City contracted with SCS to increase the number of wells with automated wellhead temperature sensors in November of 2024. Many of these wells on which sensors were added were located in portions of the landfill known to exhibit higher temperatures. The higher temperatures in this region of the landfill are reflected in higher monthly average temperatures. The wells with sensors installed in November 2024 are shown in green in Figure 1, while wells with older sensors are shown in blue.



Figure 1. Monthly Average Automated Wellhead Temperatures<sup>1</sup>



<sup>1</sup> 145 °F is the NESHA AAAA compliance threshold for well temperature, included here for reference.

### 1.3.2 Comparison with Manual Temperature Measurements

Per the approval issued by VDEQ on August 2, 2023, the Facility ceased dedicated daily manual temperature measurements in the Permit No. 588 Landfill. In lieu of these measurements, the City compares instantaneous hourly automated temperature measurements with temperatures measured at each wellhead using a handheld sensor during monthly compliance monitoring. These comparisons are shown in Figure 2, with the  $\pm 8^\circ\text{F}$  deviation thresholds as prescribed in the VDEQ approval.

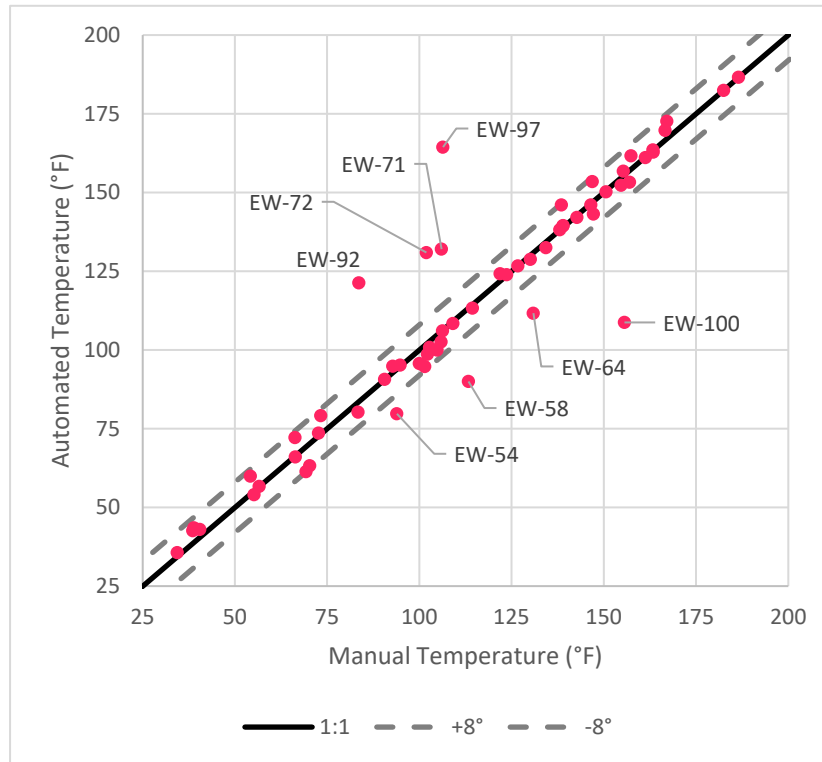
Temperatures outside the  $\pm 8^\circ\text{F}$  deviation lines were observed at eight wells during this reporting period: EW-54, EW-58, EW-64, EW-71, EW-72, EW-92, EW-97, and EW-100.

The disparity between automated and manual temperature measurements at EW-58, 64, and 100 has persisted for several months. The City, SCS, and SCS-RMC are coordinating a test to assess the functionality of these three existing sensors (EW-58, EW-64, and EW-100).

LFG flow at EW-54 being under 2 cubic feet per minute (cfm) during the manual temperature check, and the temperature variance being close to the  $\pm 8^\circ\text{F}$  threshold, SCS believes low LFG flow affected the automated sensor, allowing ambient temperature to influence the measurement and cause the discrepancy.

The remaining wells with temperature measurements outside the  $\pm 8^\circ\text{F}$  threshold in February 2025 had sensors newly installed in November 2024 (EW-71, EW-72, EW-92, and EW-97). All of these also had automated temperature measurements higher than the manual temperature measurements in December and January. These wells have stainless steel wellheads, which have sample ports that are more difficult to use and prevent manual sampling probes from reaching fully into the gas stream. This causes the manual reading to be influenced by ambient temperatures and results in a lower temperature than the automated reading. SCS-FS is in the process of modifying the wellheads to accommodate a new sample port that allows for more precise measurements using a handheld instrument. Stainless steel wellheads are more challenging to modify, which has delayed modifications to address the discrepancy.

Figure 2. Automated vs. Manual Temperature Measurements



### 1.3.3 Monthly Regulatory Wellhead Temperature Measurements

Routine monthly temperature monitoring was conducted on February 10, 2025 to comply with 40 CFR 60.36f(a)(5). Table 3 provides the status of exceedances recorded during this monitoring period.

Table 3. February Temperature Exceedance Summary

Well ID	Initial Exceedance Date	Compliant Reading	Most Recent Reading	Duration of Exceedance	Status as of 2/1/2025
EW-56	2/10/25	2/14/25 158.7 °F	2/25/25 154.7 °F	5 days	Resolved within 15-day timeline
EW-84	2/3/25	N/A	2/27/25 185.2 °F	25 days	Ongoing, within the 60-day timeline
EW-87	2/25/25	N/A	2/27/25 164.0 °F	2 days	Ongoing, within the 15-day timeline

### 1.3.4 LFG Sampling

SCS collected weekly LFG samples from wells with temperature exceedances lasting more than seven days using 1.5-L Summa canisters. The samples were sent to Enthalpy Analytical for lab analysis of carbon monoxide (CO) and hydrogen (H<sub>2</sub>) content. As of March 1, 2025, the City has

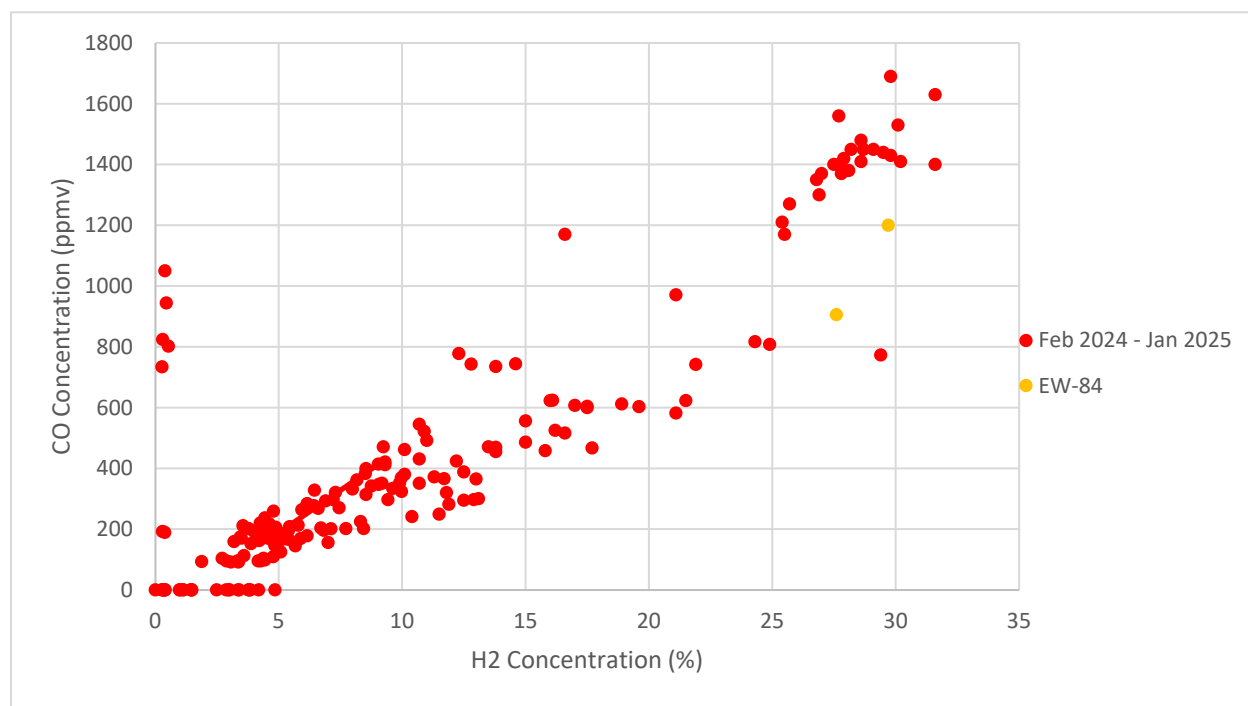
received lab results for sampling on January 30, 2025 and February 6, 2025 to fulfill the requirement in 40 CFR 63.1961(a)(5). Lab results are summarized in Table 4.

Table 4. LFG Wellhead Sampling Summary

Sample Date	1/30/25	2/6/25
EW-84	CO (ppmv)	906
	H2 (Vol. %)	27.6

The presence of hydrogen in the samples collected during this monitoring period indicates that combustion reactions are unlikely. As shown in Figure 3, the carbon monoxide and hydrogen data collected during this period appear to be consistent with the data collected previously in 2024.

Figure 3. CO vs H<sub>2</sub> Concentration from gas wells in February 2025 with historical trend



## 2.0 SIDEWALL ODOR MITIGATION

On the City's behalf, SCS designed and constructed a system to control fugitive emissions emanating from the quarry sidewalls.

## 2.1 PERIMETER GAS COLLECTION SYSTEM

Refer to the April 2023 Monthly Compliance Report for the SWP No. 588 Landfill, for information about the perimeter gas extraction wells.

## 2.2 SIDEWALL ODOR MITIGATION SYSTEM

Refer to the October 2022 Monthly Compliance Report for the SWP No. 588 Landfill, for information about the design of the sidewall odor mitigation system.

## 2.3 PILOT SYSTEM CONSTRUCTION

Refer to the February 2023 Monthly Compliance Report for the SWP No. 588 Landfill, for information about the design of the construction of the pilot sidewall odor mitigation system.

## 2.4 FULL SYSTEM CONSTRUCTION

Operation of the sidewall odor mitigation system is monitored on a monthly basis. During the month of February 2025, SCS-FS collected monitoring data at each wellhead under vacuum. A summary of system averages during the month is shown in Table 5.

Table 5. Average SOMS Gas Composition

Record Dates	Average CH <sub>4</sub> [%]	Average CO <sub>2</sub> [%]	Average O <sub>2</sub> [%]	Average Bal Gas [%]
2/3/2025, 2/4/2025, 2/21/2025, 2/24/2025	4.9	7.8	17.7	69.6

The sidewall system average gas composition indicates lower methane content than other components in the LFGCCS. These gas composition measurements indicate that the SOMS is collecting a mixture of LFG escaping the sidewall and ambient air.

The City placed additional soil on select sections of the sidewall to reduce air intrusion and prevent emissions from bypassing the SOMS. A photo showing soil placed against the sidewall to improve SOMS performance is shown in Figure 4.

Figure 4. Soil Placed Against the Sidewall



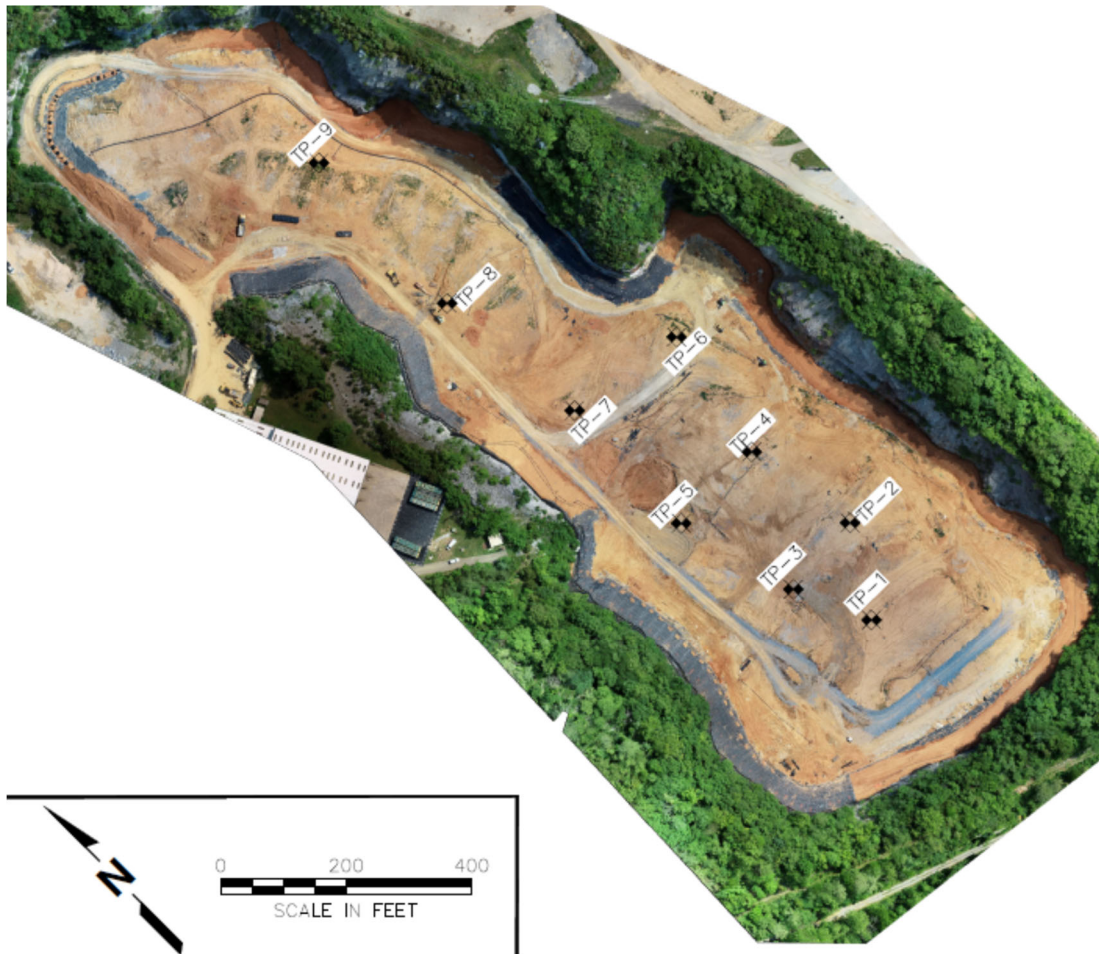
### **3.0 WASTE TEMPERATURE MONITORING**

SCS designed a monitoring system to collect temperature data throughout the waste mass. The steps taken by the City to implement this system are described in the following sections.

#### **3.1 SUMMARY OF WASTE TEMPERATURE MONITORING**

Installation of the in-situ Landfill Temperature Monitoring System began in October of 2022 and installation of replacement sensors was completed in February of 2023. Details of construction progress can be found in the monthly compliance reports for the SWP No. 588 Landfill. The locations of the temperature probes are shown in Figure 5.

Figure 5. Temperature Monitoring Probe Locations



SCS began collecting temperature data daily on February 15, 2023.

Average daily temperatures recorded by the sensors for the month of February are included in Appendix D. Each week the average temperatures from a select day of that week are downloaded and compared to temperatures recorded during the previous week. Average daily temperatures recorded on select days during the month of February are shown in Appendix B. The average temperatures recorded for March 2023, March 2024, January 2025, and February 2025 are shown in Figures 6 through 13 on the following pages.

Overall, these data indicate that temperatures within the landfill are generally stable and are typical of those observed at elevated temperature landfills (ETLFs). The temperatures recorded are substantially lower than those associated with landfill fires or other combustion processes, which can exceed 1000 °F, which is further evidence that the elevated temperatures are due to sources other than combustion.

### **3.1.1 Operational Challenges**

TP-3 began having sensor reading issues at the 150-foot depth at the end of October 2024. These issues continued through December 2024. Sensor readings resumed at the 25-foot depth in early December; however, sensor reading issues arose at the 125-foot and 175-foot depths in the latter half of December.

In January 2025, all sensors in TP-3 below the 75-foot level appeared to record erroneous temperatures intermittently. There was no improvement to the temperature signals after replacing the thermocouple interface card at TP-3 in January. This may indicate that the thermocouples are damaged. TP-2 stopped recording on 2/14/25, indicating thermocouple failure. Measurements at the 75-foot level and 150-foot level appeared erroneous in January as well.

SCS is coordinating with the City to pull the string of thermocouples from these probes and assess their condition, potentially replacing them if needed.

### **3.1.2 Probes with Consistent Temperatures over Time**

TP-1, TP-3, TP-6, TP-8, and TP-9 have exhibited relatively consistent monthly average temperatures over time (as shown in Figures 6, 7, 8, 9, and 10).



Figure 6. TP-1 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025

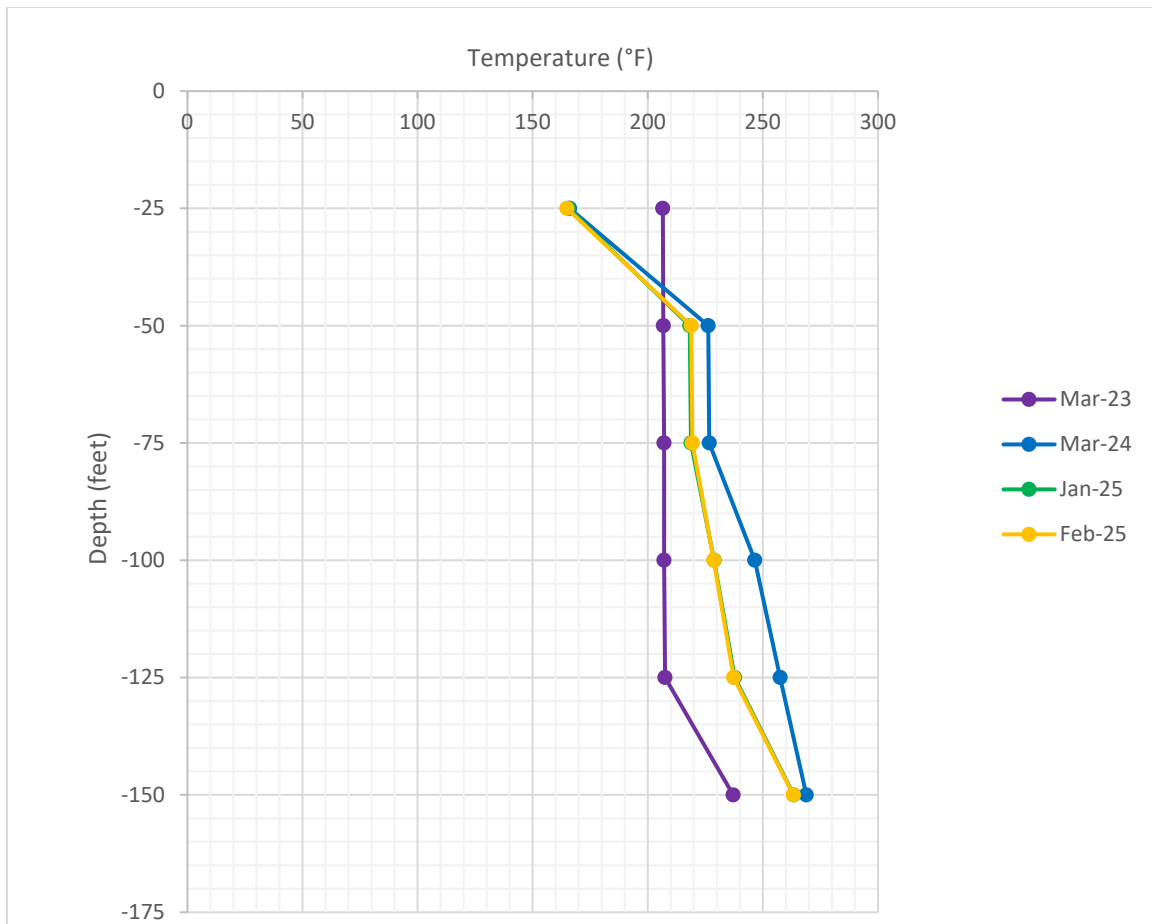


Figure 7. TP-3 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025

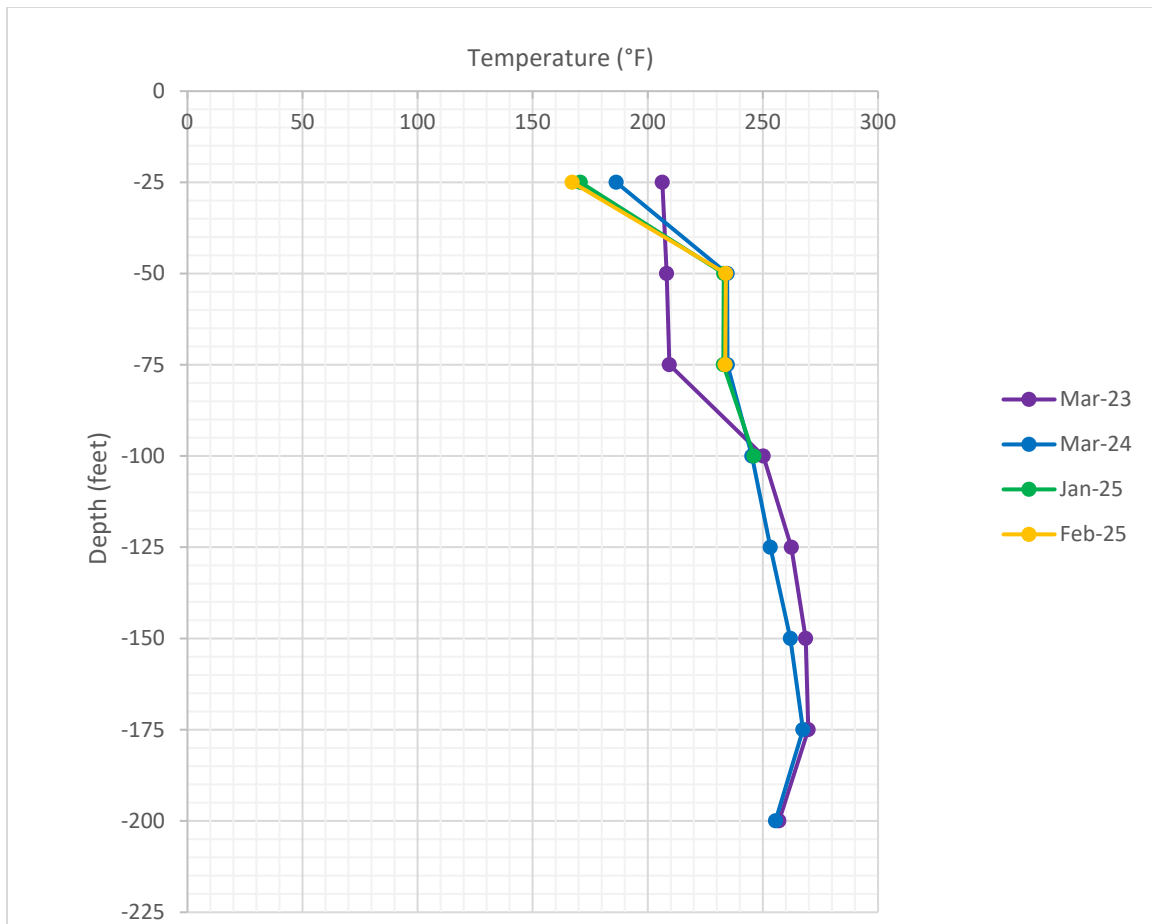


Figure 8. TP-6 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025

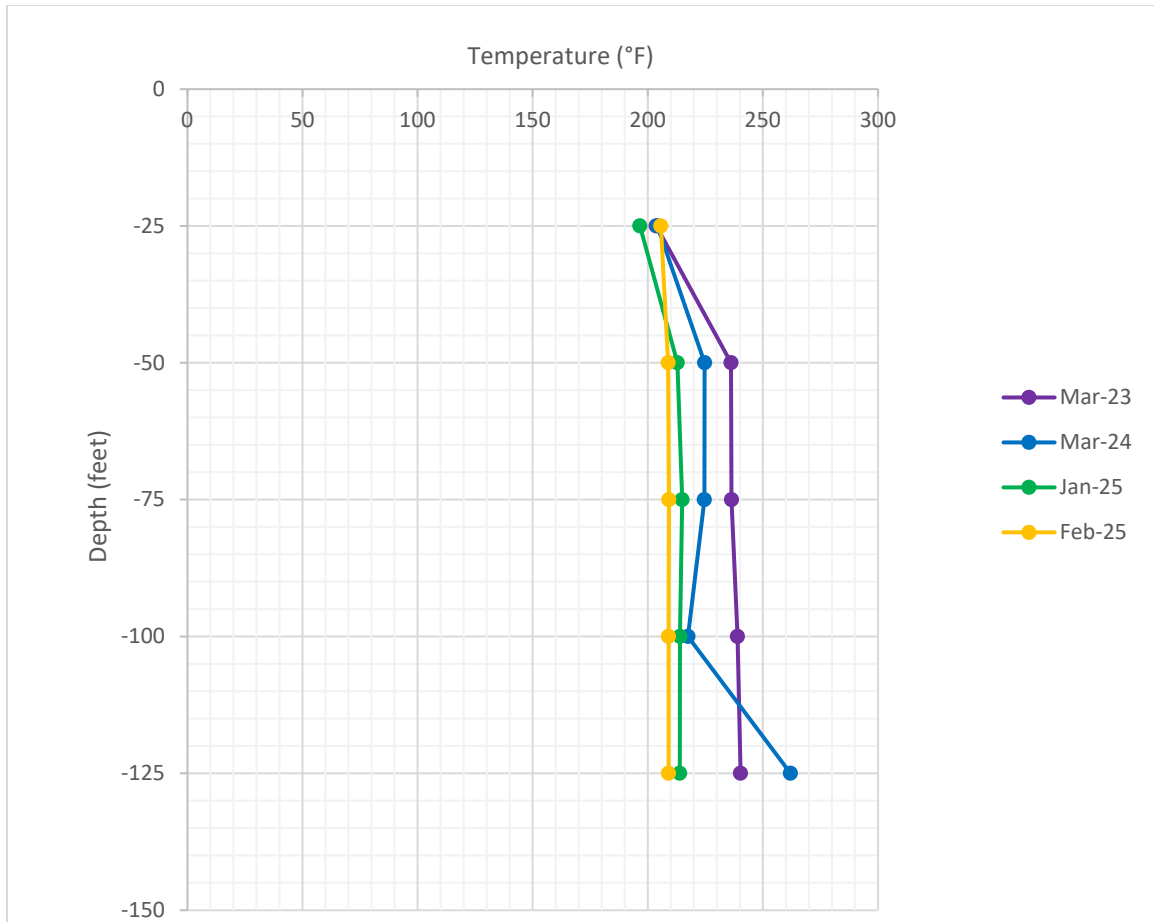


Figure 9. TP-8 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025

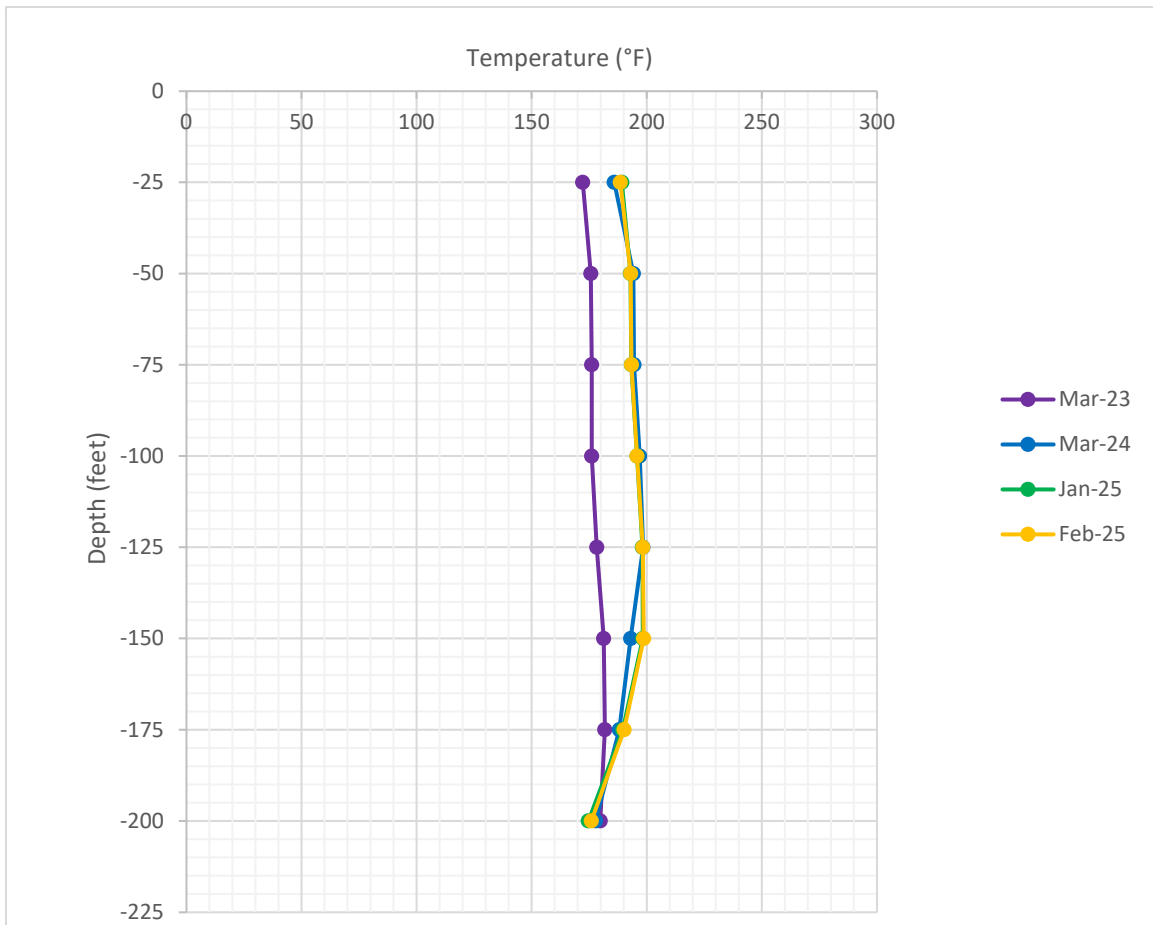
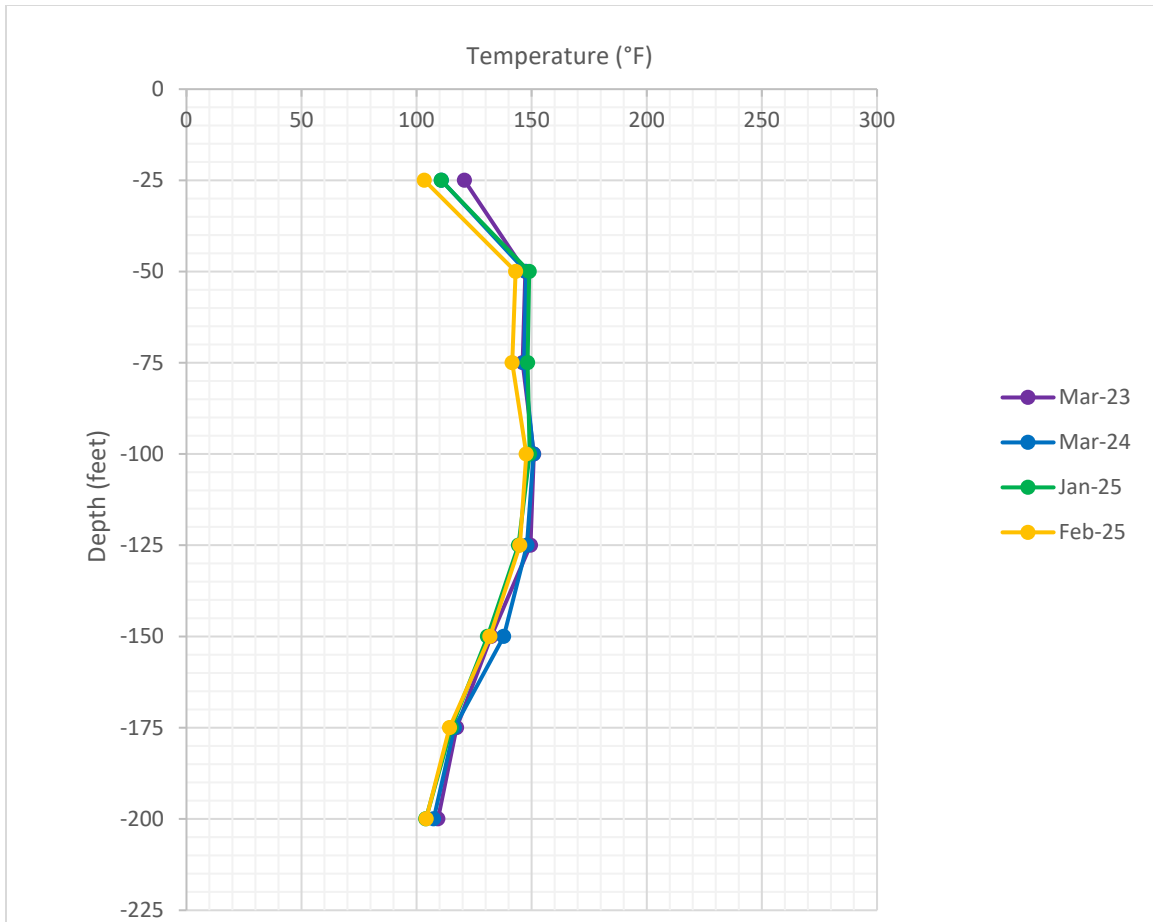


Figure 10. TP-9 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025



### 3.1.3 Probes with Changing Temperatures over Time

The temperatures at probes TP-2, TP-5, and TP-7 are more varied over time.

- TP-2: As previously noted in this section, the sensors located at the 75-foot and 150-foot depths are not currently providing accurate temperature measurements (see Figure 11).
- TP-5: The curve shape of the temperature averages with depth in Winter and Spring months are similar to one another while the Summer and Fall months follow a different pattern. Changes in temperature trends with depth at TP-5 have been observed since its installation. April 2024 is provided for this temperature probe instead due to recording issues in March 2024 (see Figure 12).
- TP-7: There is no identifiable trend over time in the average temperatures in TP-7. Changes in temperature trends with depth at TP-7 have been observed since its installation. (see Figure 13).

Figure 11. TP-2 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025

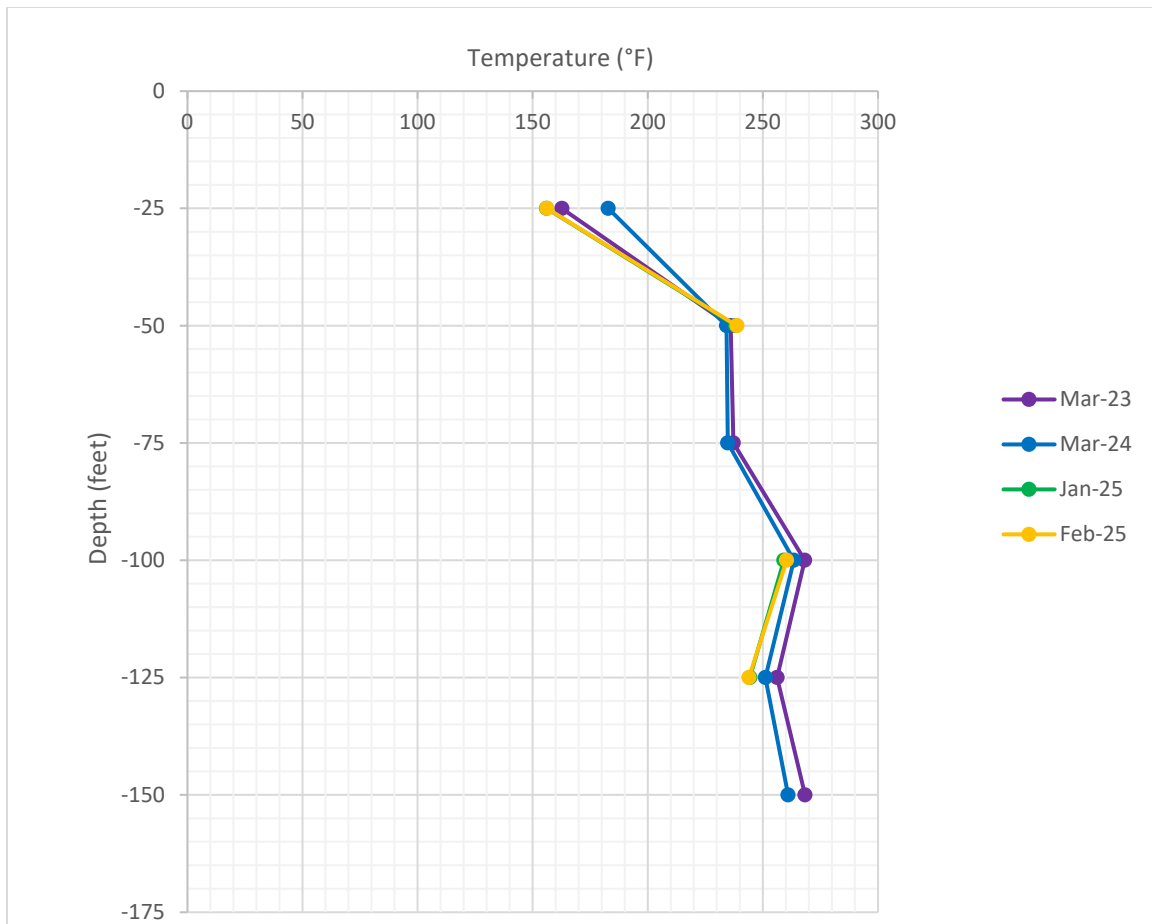


Figure 12. TP-5 Average Temperatures for the Months of March 2023, April 2024, January 2025, and February 2025

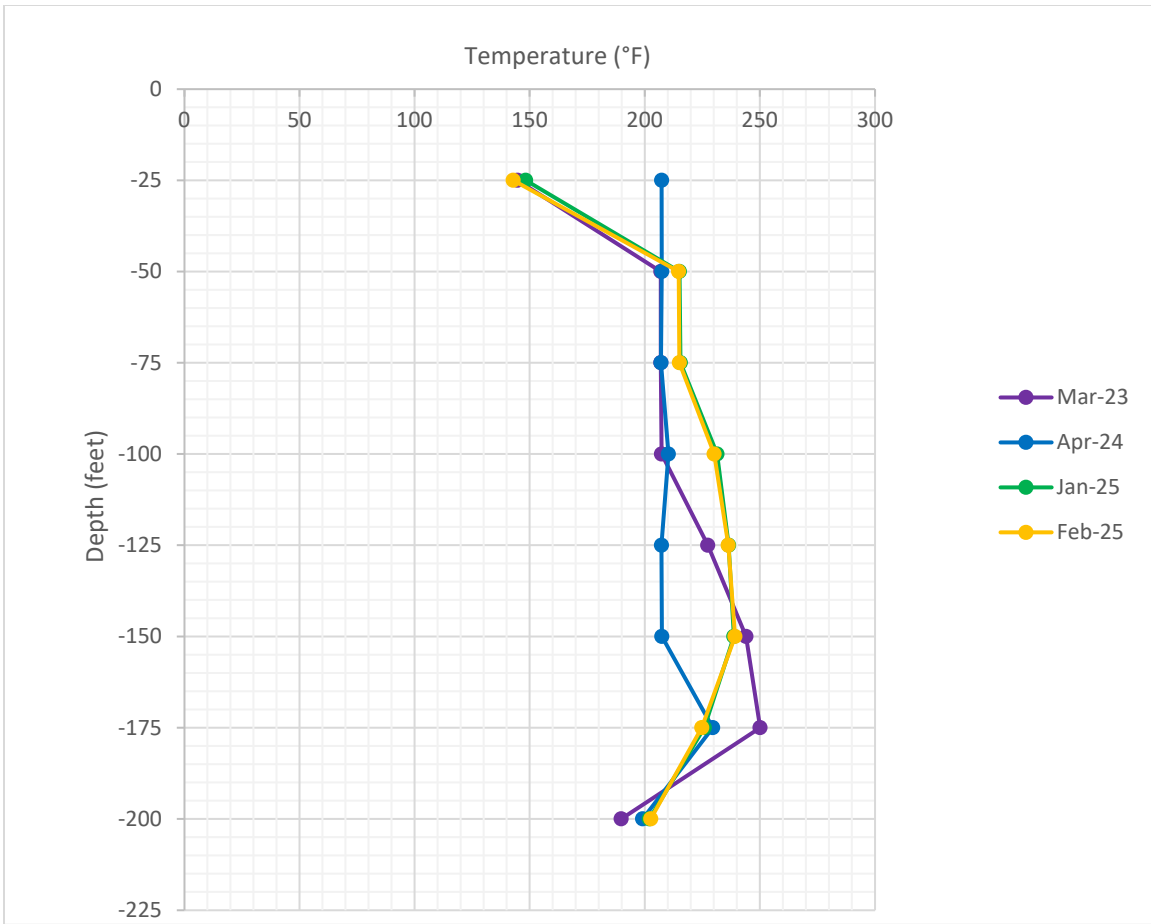
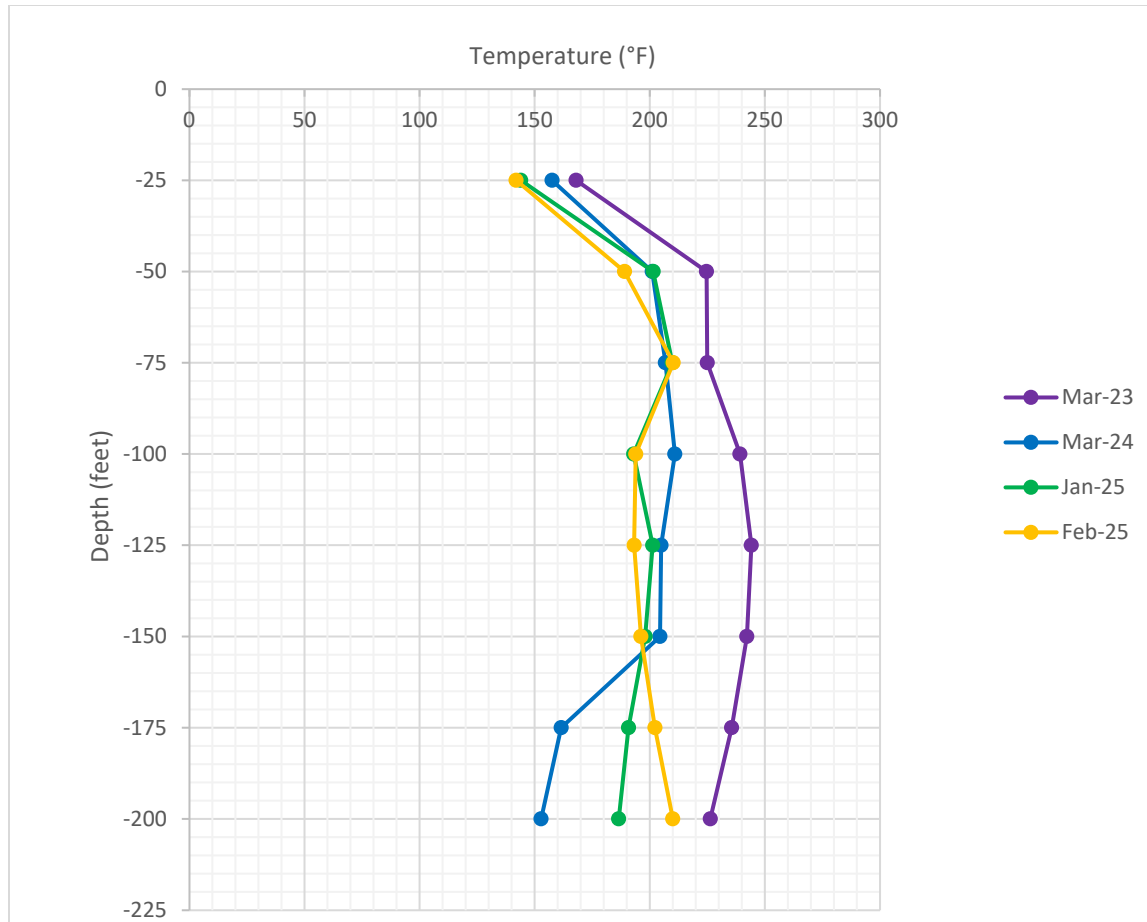


Figure 13. TP-7 Average Temperatures for the Months of March 2023, March 2024, January 2025, and February 2025





## 4.0 LEACHATE EXTRACTION AND MONITORING

The City is taking steps to improve the extraction of leachate from the waste mass and collect analytical data on leachate characteristics. The following sections detail steps taken to achieve these goals. Refer to Appendix G for narrative sections without updates.

### 4.1 DEWATERING PUMP OPERATIONS AND MAINTENANCE

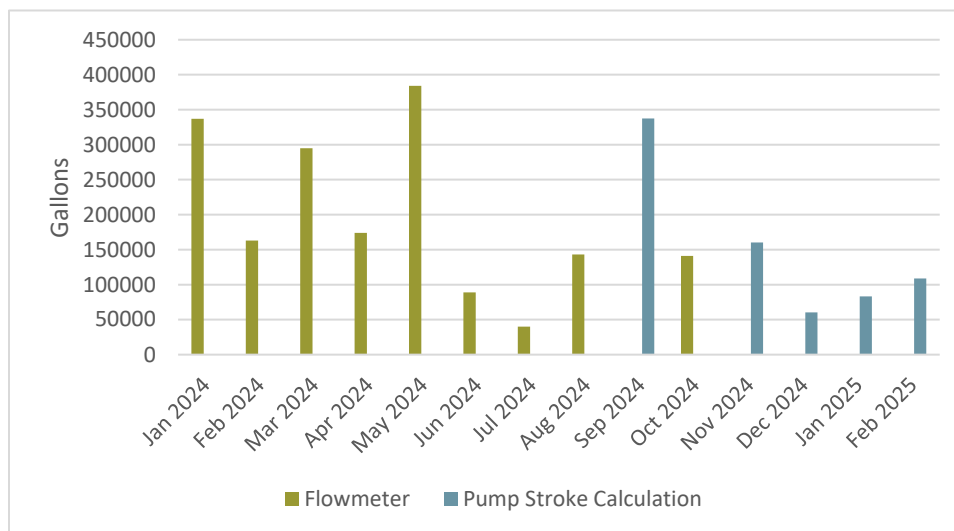
#### 4.1.1 Total LFG Liquids Removal

To improve the accuracy of the total landfill gas liquids flow rate, two flow meters were installed on the landfill gas liquid forcemains in December 2023. One flow meter was installed on the SWP No. 588 primary landfill gas liquid forcemain. The other was installed on the SWP No. 588 alternate landfill gas liquids forcemain, which also serves as the conduit for condensate from the SWP No. 498 landfill gas liquids and the SWP No. 588 stormwater pump. Given the improved accuracy of the flowmeter data compared to flow estimates based on collected stroke counter data, SCS prefers to use flow rates from the flowmeters to estimate total liquids removed when that data is available because the volume of liquid pumped per stroke is highly variable. Flow rates from individual pump performance data (e.g., stroke counts) will typically only be used to evaluate pump performance.

Figure 14 illustrates landfill gas liquids removal over the past year. During September, November, and December 2024 through February 2025, the liquids data recorded by the flowmeter were replaced with estimates from stroke counter data (colored in blue in Figure 14). These replacements were due to either the use of stormwater liquids for cleaning the dewatering forcemain or air intrusion in the dewatering forcemain, which caused the flowmeter readings to be nonrepresentative or erroneous.

SCS and the City continue to address the air intrusion in this LFG liquids flowmeter by installing additional air release valves and cleanouts to decrease interruptions to its function. SCS will continue to use stroke count estimates to track total liquids removal in the meantime. Stroke counts indicate approximately 109,000 gallons of liquid were pumped out of the landfill in February.

Figure 14. Total Dewatering Liquid Removal



## 4.1.2 Status of LFG Liquids Pumps

The City and SCS understand that operations of dewatering pumps are critical to address issues related to heat, odors, and the efficient operation of the GCCS. The landfill conditions present a challenging environment for pump operations.

Daily pump checks and maintenance of spare pumps will continue indefinitely, along with pump replacements as needed. The City, along with SCS-FS, have found that the best pumps for the landfill's current conditions are QED pumps designed for high temperature operation. The City received eight additional QED pumps in October 2024; some were installed in new wells and others were reserved to swap/replace existing pumps for cleaning. The additional pumps will help with the rotation of field pumps needing maintenance and replacement going forward.

SCS has prepared the summary below to outline the operating conditions and specific challenges associated with each pump.

### Wells with pumps working properly

- EW- 50, EW-59, EW-60, EW-61, EW-85, EW-93, EW-94, EW-98
  - The pump in EW-60 was swapped in February for cleaning
  - The check valve at EW-61 was replaced in February

### Wells that received replacement parts or other non-routine fixes

- SCS-FS used a piece of heavy equipment to attempt to extract and replace the pumps in EW-57 and EW-90. The pumps were unable to be removed and are now considered to be permanently lodged in the well, rendering the wells unable to be pumped.
- The stroke counter on the pump in EW-78 was recently replaced due to a malfunction. Based on a review of stroke counter data, the pump removed approximately 10 gallons of liquid. The liquid column measured in February was 8 feet. SCS, SCS-FS, and the City will continue to monitor the pump.

### Inaccessible Pumps/Wells

- The pump in EW-33B is stuck in the well casing and has been disconnected. SCS-FS is coordinating with the City to attempt to pull it with a piece of heavy equipment.
- The well casing at EW-49 needs to be cut down to perform maintenance on the pump. SCS-FS has scheduled these activities for March 2025.
- SCS-FS used heavy equipment to attempt to extract and replace the pump in EW-51. The pump was unable to be removed and is now considered to be permanently lodged in the well, rendering it unable to be fixed.
- SCS-FS used heavy equipment to extract and replace the pump in EW-53, then inspected and replaced it. SCS, SCS-FS, and the City will continue to monitor the pump for performance.
- The casings of EW-36A, EW-81, EW-83, EW-91, EW-92, and EW-96 extend too high above the existing ground level for a pump to be safely accessed. These are stainless steel

wells that cannot be lowered through conventional means. SCS-FS and the City are coordinating placement of additional soil around the wells to provide safe access. Figure 15 shows a technician attempting to access EW-96 for liquid level measurement.

Figure 15. Technician Attempting to Access EW-96



#### Other circumstances

- Based on a review of the stroke counter data, the pump in EW-52 pumped approximately 12 gallons of liquid during the month of February 2025. The pump was replaced on January 27, 2025, but has not been able to operate due to excessive forcemain pressure

buildup. SCS-FS and the City are coordinating on modifications to the forcemain to address high pressures.

- The pumps in EW-54 and EW-67 were unable to be operated in February due to a clogged forcemain line. SCS-FS and the City are coordinating on efforts to clean the forcemain.
- The pump in EW-62 is offline due to a damaged airline. SCS-FS will evaluate the extent of damage and will coordinate with the City to procure materials needed for the repair.
- The pumps in EW-69 and EW-70 were removed because the liquid levels were found to be low after liquid level sampling.
- Pumps in the EW-74 and EW-75 were inoperable due to the build-up of solids on the pump. In EW-75, the solids were able to be cleared enough to reestablish vacuum on 2/26/25. SCS, SCS-FS, and the City will monitor the pump for functionality.
- EW-82, EW-87, EW-88, and EW-89 are scheduled to be removed and inspected by SCS-FS in March.

In addition to the challenges associated with the individual pumps, SCS-FS has generally observed high forcemain pressures and significant build-up of solids within the forcemain. An example of solids build-up within the forcemain is shown in Figure 16. This results in SCS-FS dedicating substantial amounts of time to relieving air pressure on the system. The City issued a solicitation for bids for installation of additional cleanouts and air release valves in the wellfield to address the issue on February 18, 2025.

Figure 16. Solids in Landfill Gas Liquids Forcemain



## 4.2 SAMPLING AND ANALYSIS PLAN

### 4.2.1 Sample Collection

On February 4, 2025, SCS collected a leachate sample from one Dual Phase LFG extraction well (EW-50, EW-61, and EW-85). Field measurements for dissolved oxygen, oxidation-reduction potential, pH, specific conductance, temperature, and turbidity were taken and recorded at the time of sample collection. The associated field logs are included in **Appendix F**. In February 2025, SCS' field staff were not able to collect samples from the wells summarized in **Table 6**. Additional details about the condition of these wells and planned maintenance activities are included in Section 4.1.2.

Table 6. Summary Wells Unable to be Sampled for Leachate

Wells With Pumps	Wells Without Pumps
<ul style="list-style-type: none"> <li>Pump was not running at the time of monitoring for the following wells: EW-52, EW-55, EW-59, EW-60, EW-62, EW-64, EW-68, EW-69, EW-78, EW-93, and EW-98.</li> </ul>	<ul style="list-style-type: none"> <li>There was no pump at the time of the monitoring for the following wells: EW-63, EW-66, EW-70, EW-71, EW-72, EW-73, EW-74, EW-79, EW-86, EW-91, EW-95, and EW-99.</li> </ul>

Table 6. Summary Wells Unable to be Sampled for Leachate

Wells With Pumps	Wells Without Pumps
<ul style="list-style-type: none"> <li>• Pump was disconnected or off at the time of monitoring for EW-33B, EW-36A, EW-49, EW-51, EW-53, EW-54, EW-57, EW-65, EW-67, EW-81, EW-82, EW-83, EW-87, EW-88, EW-89, and EW-90.</li> <li>• Pump was not running for EW-96 and well was too tall to safely measure the liquid level.</li> <li>• Pump was not running, and the liquid depth was not measured at the time of monitoring for EW-76 and EW-94.</li> </ul>	<ul style="list-style-type: none"> <li>• There was no pump at the time of the monitoring for EW-75, EW-77, EW-80, and EW-84 and the liquid level could not be gauged as well was not under vacuum thus unsafe to open for water level.</li> <li>• There is no pump and the well appeared dry at the time of monitoring for EW-56.</li> <li>• There was no pump at the time of the monitoring for EW-92 and EW-97 and well was too tall to safely measure the liquid level.</li> <li>• There is no pump and the liquid depth was not measured at the time of monitoring for EW-58 and EW-100.</li> </ul>

The samples were delivered to Enthalpy Analytical (Enthalpy) in Richmond, Virginia for analysis. Enthalpy’s Virginia Division of Consolidated Laboratory Services (VELAP) certification is provided on the certificate of analysis (COA) included in **Appendix F**. The samples were analyzed for the parameters utilizing the analytical methods described in the Dual Phase Landfill Gas Extraction Well Leachate Monitoring Plan, December 1, 2022, prepared by SCS Engineers, except for volatile fatty acids (VFAs) as this analysis was inadvertently omitted from the sampling plan. Future lab analysis will include VFA analysis.

#### 4.2.1 Quality Assurance and Quality Control

Field quality control (QC) involved the collection and analysis of trip blanks to verify that the sample collection and handling processes did not impair the quality of the samples. Trip blanks were prepared for VOC analysis via Solid Waste (SW)-846 Method 8260D. In conjunction with the preparation of the groundwater sample collection bottle set, laboratory personnel filled each trip blank sample bottle with distilled/deionized water and transported them with the empty bottle kits to SCS. Field personnel handled the trip blanks like a sample; they remained un-opened, were transported in the sample cooler, and were returned to the laboratory for analyses. A trip blank is used to indicate potential contamination due to the potential migration of VOCs from the air at the site or in the sample shipping containers, through the septum or around the lid of the sampling vials and into the sample.

Laboratory quality assurance/quality control (QA/QC) involves the routine collection and analysis of method reagent blanks, matrix spike (MS) and matrix spike duplicate (MSD) samples, and laboratory control samples (LCS). A summary of each of these is presented below:

- **Method Blank** – The method blank is deionized water subjected to the same reagents and manipulations to which site samples are subjected. Positive results in the method

blanks may indicate either contamination of the chemical reagents or the glassware and implements used to store or prepare the sample and resulting solutions.

- **MS/MSD** – A MS is an aliquot of a field sample with a known concentration of target parameter added to it. An MSD is an intra-laboratory split sample spiked with a known concentration of target parameter. Spiking for each occurs prior to sample analysis. MS/MSD samples are collected for every batch of twenty or fewer samples. Matrix spike recoveries are used to indicate what effect the sample matrix may have on the reported concentration and/or the performance of the sample preparation and analysis.
- **LCS** – These samples consist of distilled/deionized water injected with the parameters of interest for single parameter methods and selected parameters for multi-parameter methods according to the appropriate analytical method. LCS samples are prepared and analyzed for each batch containing twenty or fewer samples. LCS recoveries are used to monitor analytical accuracy.

Surrogate recoveries are also measured as a part of laboratory QA/QC. Surrogates are organic compounds that are like the parameters of interest in chemical composition, extraction, and chromatography, but are not normally found in environmental samples. These compounds are inserted into blank, standards, samples, and spiked samples prior to analysis for organic parameters only. Percent recoveries are calculated for each surrogate. Spike recoveries at or below acceptance criteria indicate whether analytical results can be considered biased high or biased low.

QC blank detects identified for the February 2025 monitoring event are shown on **Table 7**. The laboratory analysis report for the February 2025 monitoring event trip blank is included in **Appendix F**. The February 2025 monitoring event laboratory QA/QC report, including the method blank results, is included in the COA in **Appendix F**.

Table 7. Quality Control Blank Summary

Location ID	Parameter	Concentration (mg/L)	LOQ (mg/L)
Method Blank	Copper	0.000487	0.001

LOQ = laboratory's Limit of Quantitation  
mg/L = milligrams per liter

## 4.2.2 Data Validation

To identify analytical data that may not represent valid results, data from the monitoring events were validated by the Laboratory and SCS in accordance with United States Environmental Protection Agency (EPA) guidance<sup>2</sup>. Data flagged with a “J” qualifier indicates the quantitation of the parameter is less than the laboratory’s limit of quantitation but greater than the laboratory’s limit of detection (LOD); thus, the concentration is considered estimated. Samples with parameter detections less

<sup>2</sup> United States Environmental Protection Agency. Guidance for Data Usability in Risk Assessment (Part A-14). April 1992.

United States Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. National Functional Guidelines for Inorganic Superfund Methods Data Review. November 2020.

United States Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. National Functional Guidelines for Organic Superfund Methods Data Review. November 2020.

than five times that of the trip blank, field blank, and/or method blank detection but greater than the laboratory's LOD are flagged with a "B" qualifier. Samples with common laboratory contaminant parameter detections less than 10 times that of the trip blank, field blank, and/or method/laboratory blank detection but greater than the laboratory's LOD are flagged with a "B" qualifier. Data with a "B" qualifier are considered not validated as the detection may be anomalous due to cross-contamination during sampling, transportation of samples, or laboratory analysis.

No leachate results were flagged with a "B" qualifier for the February 2025 monitoring event as copper was the only QC blank detection and the only copper detection in the leachate samples was in EW-85 and the concentration was greater than five times the concentration detected in the QC blank. The January 2025 detections flagged with a "J" qualifier are shown on **Table 8**.

### 4.2.3 Laboratory Analytical Results

The analytical results for the February 2025 leachate samples collected from extraction wells EW-50, EW-61, and EW-85 are summarized in **Table 8**. The associated COA is included in **Appendix F**. Parameter results from February 2025 and previous monitoring events (November 2022 – January 2025) are presented on a table in **Appendix F**. Time-series plots of each VOC for the wells that have historically been sampled are included in **Appendix F**.

Table 8. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-50	EW-61	EW-85	LOD	LOQ
<b>Parameter</b>	<b>February 2025 Concentration</b>				
Ammonia as N (mg/L)	<b>1300</b>	---	<b>1400</b>	73.1	100
	---	<b>1160</b>	---	199	199
Biological Oxygen Demand (mg/L)	<b>4420</b>	<b>43418.4</b>	<b>16200</b>	0.2	2
	<b>3630</b>	---	---	1000	1000
Chemical Oxygen Demand (mg/L)	---	---	<b>23400</b>	5000	5000
	---	<b>447000</b>	---	100000	100000
Nitrate as N (mg/L)	ND	---	ND	1	5
	---	ND	---	10	50
Nitrite as N (mg/L)	ND	---	ND	1	5
	---	ND	---	10	50
Total Recoverable Phenolics (mg/L)	<b>8.15</b>	---	---	0.75	1.25
	---	---	<b>20.8</b>	1.5	2.5
	---	<b>516</b>	---	495	495
Total Kjeldahl Nitrogen (mg/L)	---	<b>0.948</b>	---	0.0398	0.0995
	<b>1190</b>	---	<b>1520</b>	100	250
<b>SEMI-VOLATILE ORGANIC COMPOUND (ug/L)</b>					
Anthracene	ND	---	---	100	200
	---	---	ND	200	400
	---	ND	---	4160	4160



Table 8. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-50	EW-61	EW-85	LOD	LOQ
Parameter	February 2025 Concentration				
<b>TOTAL METALS (mg/L)</b>					
Arsenic	<b>0.17</b>	---	<b>0.73</b>	0.005	0.01
	---	<b>0.774 J</b>	---	0.465	1
Barium	<b>0.633</b>	---	<b>1.48</b>	0.01	0.05
	---	ND	---	0.465	0.5
Cadmium	ND	---	<b>0.0101</b>	0.001	0.01
	---	ND	---	0.186	0.2
Chromium	<b>0.21</b>	---	<b>0.196</b>	0.004	0.01
	---	<b>0.0992</b>	---	0.0465	0.05
Copper	ND	---	<b>0.00381 J</b>	0.003	0.01
	---	ND	---	0.0465	0.05
Lead	ND	---	<b>0.02</b>	0.01	0.01
	---	<b>0.0561</b>	---	0.0465	0.05
Mercury	---	<b>0.00011</b>	---	0.000009	0.000009
	ND	---	ND	0.002	0.002
Nickel	<b>0.09275</b>	---	<b>0.1021</b>	0.01	0.01
	---	ND	---	0.0465	0.05
Selenium	ND	---	ND	0.0085	0.01
	---	ND	---	2.32	2.5
Silver	ND	---	ND	0.0006	0.01
	---	ND	---	0.00232	0.0025
Zinc	<b>0.0405 J</b>	---	<b>0.527</b>	0.025	0.05
	---	<b>0.136</b>	---	0.0465	0.05
<b>VOLATILE ORGANIC COMPOUNDS (ug/L)</b>					
2-Butanone (MEK)	<b>6930</b>	---	---	60	200
	---	---	<b>23900</b>	150	500
	---	ND	---	24500	24500
Acetone	<b>9820</b>	---	---	700	1000
	---	---	<b>46400</b>	3500	5000
	---	ND	---	49000	98000
Benzene	<b>739</b>	---	---	8	20
	---	---	<b>443</b>	20	50
	---	<b>559000</b>	---	24500	24500
Ethylbenzene	<b>164</b>	---	---	8	20
	---	---	<b>158</b>	20	50
	---	<b>2090000</b>	---	24500	24500

Table 8. Monthly LFG-EW Leachate Monitoring Event Summary

Well ID	EW-50	EW-61	EW-85	LOD	LOQ
Parameter	February 2025 Concentration				
<b>VOLATILE ORGANIC COMPOUNDS (ug/L)</b>					
Tetrahydrofuran	1020	---	---	200	200
	---	---	7490	500	500
	---	ND	---	24500	24500
Toluene	271	---	---	10	20
	---	---	54.5	25	50
	---	537000	---	24500	24500
Xylenes, Total	267	---	---	20	60
	---	---	354	50	150
	---	4260000	---	24500	24500

--- = not available

J = Constituent was detected at a concentration above the laboratory's LOD but below the laboratory's LOQ.

Concentration is estimated and not validated.

LOD = laboratory's Limit of Detection

LOQ = laboratory's Limit of Quantitation

mg/L = milligrams per liter

ND = Not Detected

ug/L = micrograms per liter

## 5.0 SETTLEMENT MONITORING AND MANAGEMENT

The City is taking steps to track and manage settlement occurring in the landfill. A summary of actions taken to quantify and manage settlement is included in the sections below. Refer to Appendix G for narrative sections without updates.

### 5.1 SETTLEMENT MONITORING AND MANAGEMENT PLAN

Information about the Settlement Monitoring and Management Plan for the SWP No. 588 Landfill and a copy of the plan can be found in the November 2022 Compliance Report for the SWP No. 588 Landfill.

### 5.2 MONTHLY SURVEYS

#### 5.2.1 Topographic Data Collection

SCS collected topographic data of the Solid Waste Permit No. 588 Landfill using photogrammetric methods via an unmanned aerial vehicle (UAV or drone) on February 18, 2025. On this date there was snow present on the ground that impacted the collection of topographic data. Aerial imagery collected on February 18, 2025 is depicted in Figure 17. The topographic data collected is shown on Sheet 4 in Appendix E.

Figure 17. Aerial Photo of the SWP No. 588 Landfill



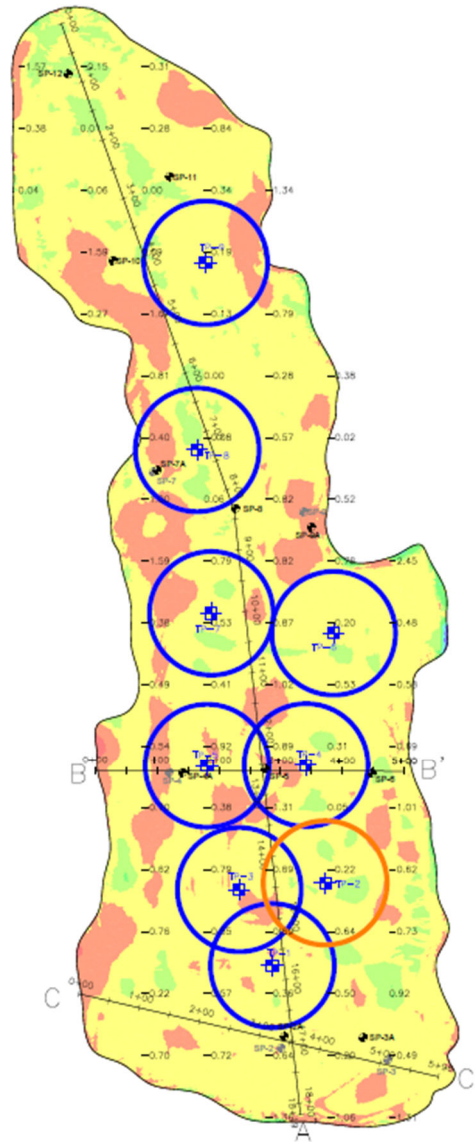
The topography within the landfill footprint was compared to topographic data collected by SCS using photogrammetric methods on January 14, 2025. A drawing depicting the January 14, 2025 topography is included as Sheet 3 in Appendix E.

Based on a comparison of the topographic data collected on those two dates, the data shows a fill of 600 cubic yards across the site. Fill may have been placed on the site to address differential settlement, surface emissions, and to provide access to LFG collection vertical wells. During that same time period, calculations indicate a “cut” volume of approximately 17,700 cubic yards. Cut volumes are typically attributed to settlement. This resulted in a net volume decrease of approximately 17,100 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 18. Areas in yellow, orange, and red indicate where elevations decreased and areas in green indicate

areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 5 in Appendix E.

Figure 18. 1-Month Elevation Change Map



The locations of in-waste temperature monitoring probes are also shown on Figure 18, Figure 19, and Figure 20. The circles around the probes in each of these figures are indicative of the average borehole temperature. The circles shown are offset from the probes for clarity only and do not necessarily indicate temperatures measured at locations away from the probe. Probes with a blue circle around them typically have an average temperature less than 200° F across the full depth of the probe. Probes with an orange circle around them typically have an average temperature greater than 200° F and less than 250° F across the full depth of the probe. There were no probes

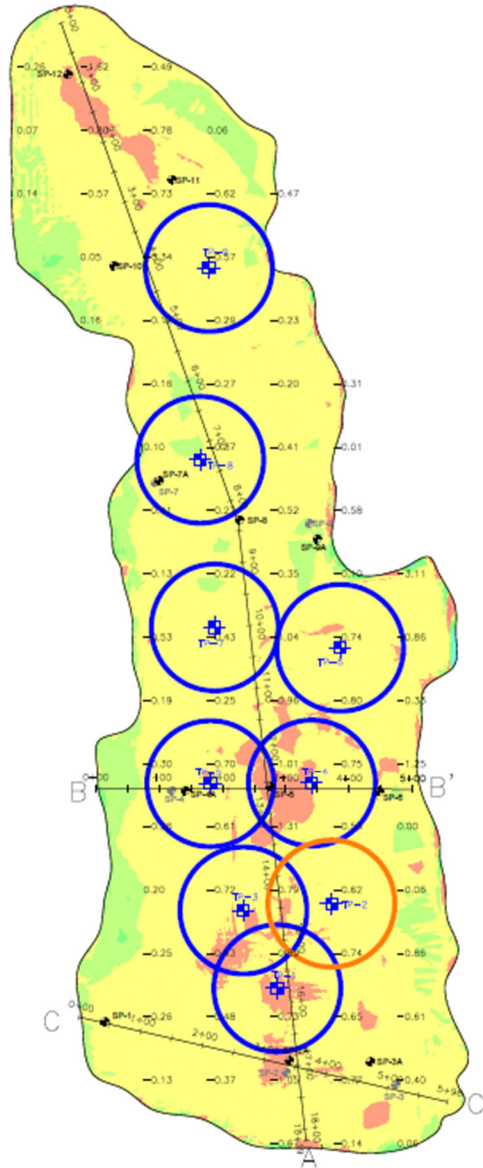
measuring average temperatures greater than 250°F and less than 300°F during the month of February 2025.

SCS calculated the waste footprint for purposes of analysis to be 752,610 square feet. Based on that area and the net volume change, the average elevation decrease between the flyover dates was 0.6 feet.

SCS also compared the topographic data collected in February to the topographic data collected on November 12, 2024. Based on a comparison of the topographic data collected on those two dates, settlement occurred that reduced the volume of waste in the landfill by approximately 12,800 cubic yards. During that same time period calculations indicate approximately 900 cubic yards of fill were placed on the landfill, for a net decrease in waste volume of 11,900 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 19. Areas in orange/yellow indicate where elevations decreased and areas in green indicate areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 6 in Appendix E.

Figure 19. 3-Month Elevation Change Map

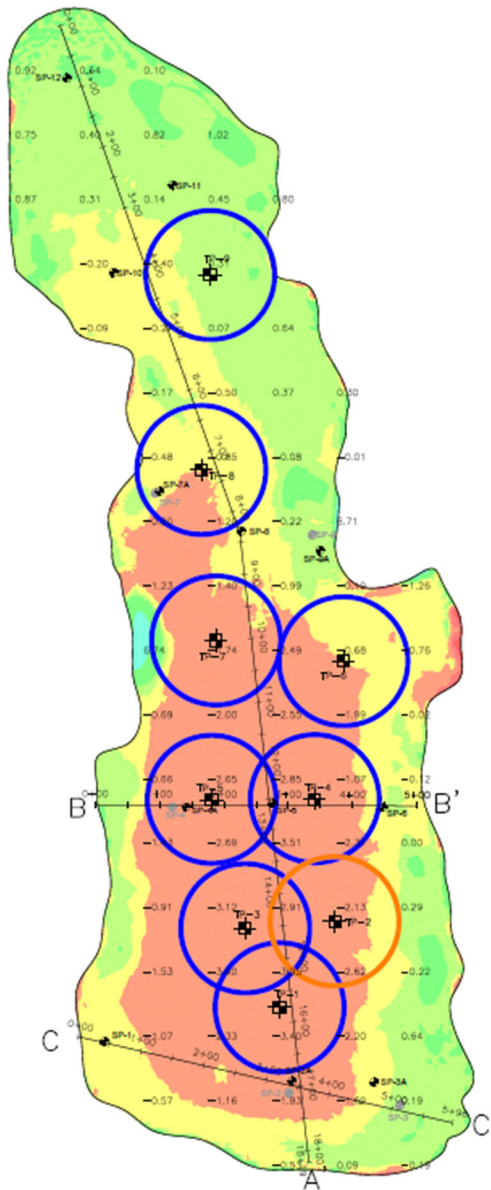


Based on the area of the landfill and the net volume change, the average elevation decrease was approximately 0.4 feet.

SCS also compared the topographic data collected in February 2025 to the drone topographic data collected on February 15, 2024. Based on a comparison of the topographic data collected on those two dates, settlement occurred that reduced the volume of waste in the landfill by approximately 28,200 cubic yards. During that same time period approximately 6,800 cubic yards of construction-related fill were placed on the landfill. This fill was primarily soil placed as part of the sidewall odor mitigation system construction and ongoing maintenance (i.e. filling to compensate for settlement). This resulted in a net volume decrease of approximately 21,400 cubic yards.

A visual depiction of settlement and filling at the landfill during this time is depicted in Figure 20. Areas in red indicate where elevations decreased and areas in green indicate areas where elevations have increased. Darker colors indicate greater changes in elevation. This drawing is also included as Sheet 7 in Appendix E.

Figure 20. 1-Year Elevation Change Map



The largest settlement occurred primarily at the southern end of the landfill where the waste settled by 5 feet or more in some areas. Significant settlements are typical of elevated temperature landfill conditions. The landfill perimeter exhibited an increase in elevation, likely due to soil placement associated with construction and/or ongoing maintenance of the Sidewall Odor Mitigation System. There were variations in elevation associated with soil stockpiling operations.

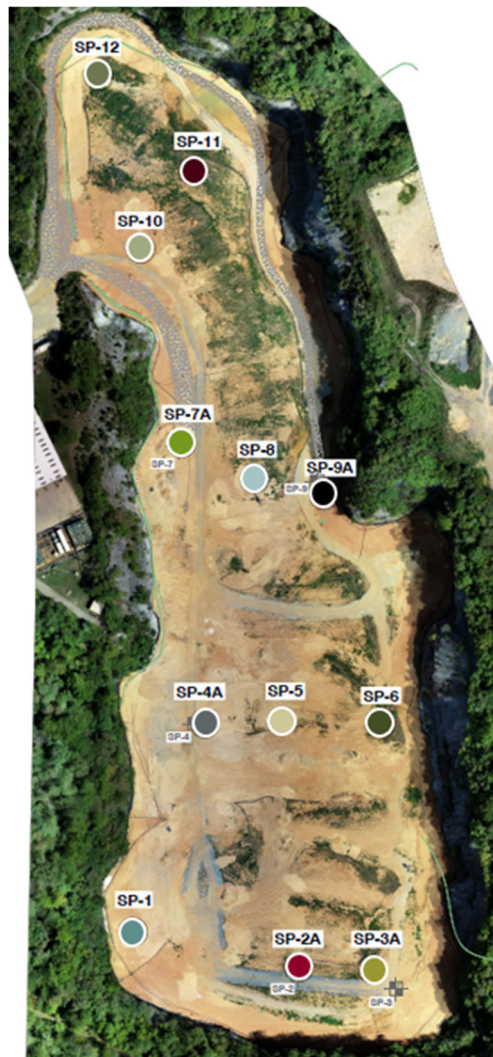
Based on the landfill area and the net volume change, the average elevation decrease was approximately 0.7 feet.

SCS will collect topographic data covering the landfill surface again in March using photogrammetric methods via UAV. This data will be compared to the data collected in March 2024, December 2024, and February 2025.

## 5.2.2 Settlement Plate Surveys

On November 7, 2022, SCS field services installed 12 settlement plates on the Solid Waste Permit No. 588 landfill. Five new settlement plates (SP-2A, SP-3A, SP-4A, SP-7A, and SP-9A) installed during June 2024 are intended to replace non-operational settlement plates. The settlement plate locations are depicted in Figure 21 and on Sheet 1 in Appendix E. The construction and installation of the settlement plates generally conforms to the design outline in the Settlement Monitoring and Management Plan.

Figure 21. Settlement Plate Locations





The locations of the settlement plates were surveyed on November 14, 2022. The locations of the settlement plates were initially surveyed on November 14, 2022, and have been surveyed monthly thereafter. The survey coordinates and elevation changes of the settlement plates are shown in Table 8.

Table 9. Elevation and Strain Data at Settlement Plate Locations

Settlement Plate	Northing	Easting	Elevation on Feb. 14, 2025	Elevation Change Since Jan. 8, 2025	Strain <sup>3</sup> Since Jan. 8, 2024	Elevation Change Since Installation	Strain/Year
SP-1	3,397,887.5	10,412,080.6	1,829.0	-0.1	-0.1%	-5.4	-1.1%
SP-2A	3,397,823.0	10,412,370.6	1,793.5	-0.3	-0.2%	-2.2	-2.1%
SP-3A	3,397,820.1	10,412,498.2	1,779.3	-0.1	-0.1%	-0.9	-1.2%
SP-4A	3,398,247.1	10,412,206.9	1,803.3	-0.3	-0.2%	-1.9	-1.6%
SP-5	3,398,255.8	10,412,339.5	1,789.0	-0.3	-0.1%	-11.8	-1.0%
SP-6	3,398,248.8	10,412,509.9	1,773.1	-0.1	-0.1%	-4.5	-1.0%
SP-7A	3,398,731.8	10,412,157.9	1,822.5	-0.1	-0.1%	-0.9	-1.1%
SP-8	3,398,678.2	10,412,290.9	1,800.1	-0.2	-0.1%	-7.2	-0.6%
SP-9A	3,398,644.2	10,412,416.2	1,788.3	-0.1	-0.1%	-0.5	-0.5%
SP-10	3,399,080.2	10,412,093.3	1,837.0	-0.1	0.0%	-3.2	-0.4%
SP-11	3,399,216.3	10,412,183.8	1,814.6	0.0	0.0%	-1.7	-0.2%
SP-12	3,399,381.7	10,412,019.6	1,809.7	-0.1	-0.1%	-0.9	-0.8%

Prior to April 2024, the City's in-house surveyor read the settlement plate elevations. Starting April 2024, the settlement plate elevations were measured by FEI Civil Engineers and Land Surveyors.

Settlement Plates 2A and 4A demonstrated larger settlements than at other locations. Settlement Plates 2A and 4A are located in the southern end of the landfill. This area is the location of the gas wells and temperature probes exhibiting higher temperatures. These higher settlements values are typical of elevated temperature landfill conditions.

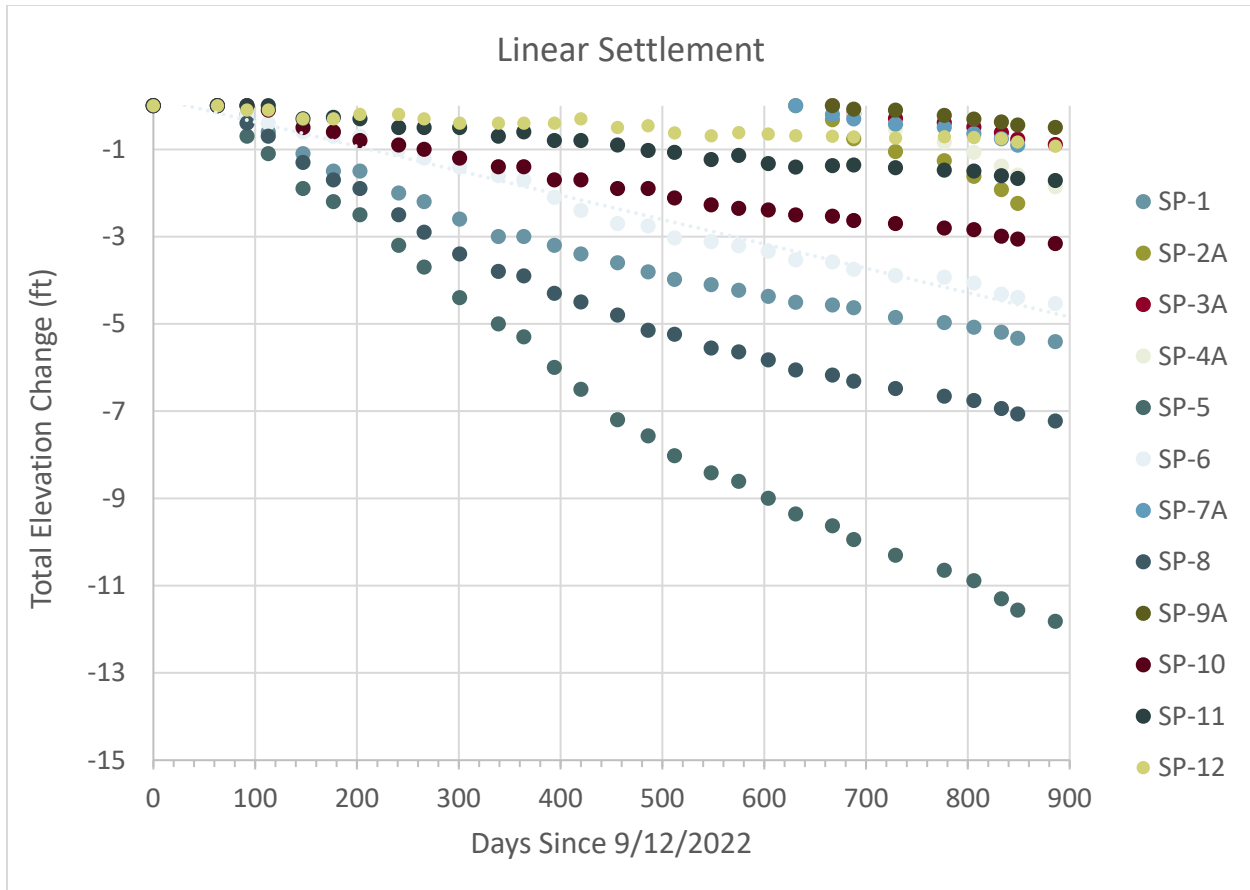
The change in elevation at Settlement Plates 10 and 11 was lower and more representative of typical settlement at municipal landfills with waste of similar depth.

The settlement observed at the rest of the settlement plates fell in between these two categories.

Figure 22 shows the changes in elevation of select settlement plates over time. For the purposes of recording data in this figure, times are reported in days since the landfill was required to stop accepting waste.

<sup>3</sup> Strain is defined as the change in elevation divided by the estimated waste depth.

Figure 22. Elevation Change of Select Settlement Plates Over Time



The settlement plates will be surveyed again during March 2025. The elevations surveyed will be compared to the elevations surveyed the previous months.

## 6.0 INTERMEDIATE COVER AND EVOH COVER SYSTEM

The City has taken steps to provide intermediate and temporary cover of the wastes in the landfill. The section below outline the steps taken by the City and future plans related to temporary cover.

### 6.1 INTERMEDIATE COVER INSTALLATION

A summary of the intermediate cover installation can be found in the October 2022 Monthly Compliance Report for the SWP No. 588 Landfill.

### 6.2 EVOH COVER SYSTEM DESIGN

An amendment to the Consent Decree was issued on March 21, 2024 which requires an ethylene vinyl alcohol (EVOH) deployment no later than December 1, 2026. The amended Consent Decree also requires regular settlement assessments, and the EVOH deployment may occur earlier if settlement rates appear acceptable. The first of these assessments was submitted to VDEQ on April

11, 2024. The most recent assessment was submitted on January 13, 2025. The next assessment will be submitted on or before April 10, 2025.

### **6.3 EVOH COVER SYSTEM PROCUREMENT**

Information about the procurement of materials for the EVOH cover system can be found in the January 2023 Monthly Compliance Report for the SWP No. 588 Landfill.

### **6.4 EVOH COVER SYSTEM INSTALLATION**

As outlined in the amendment to the Consent Decree dated March 21, 2024, the deadline for EVOH Cover System installation has been extended. The City is conducting the assessments described in Section 6.2 to determine the appropriate time for installation.

## **7.0 STORMWATER MANAGEMENT**

Information about the most recent stormwater management plans, basin location, plan implementation, long-term control, and stormwater monitoring for the SWP No. 588 Landfill can be found in the December 2023 Monthly Compliance Report for the SWP No. 588 Landfill.

## **8.0 MISCELLANEOUS**

### **8.1 CEASE WASTE ACCEPTANCE**

The City ceased acceptance of offsite waste at the Solid Waste Permit No. 588 landfill prior to September 12, 2022.

### **8.2 LONG-TERM PLAN**

Refer to the December 2022 and March 2023 Monthly Compliance Reports for the SWP No. 588 Landfill for additional information about the development and implementation of the Monitoring, Maintenance, and Repair Plan.

### **8.3 MONTHLY COMPLIANCE REPORTS**


As described in the introduction this report is intended to provide comprehensive updates regarding progress towards completion of each item described in Appendix A of the Consent Decree between the City and VDEQ.

### **8.4 COMMUNITY OUTREACH PROGRAM**

The City's consultant leading community outreach, McGuireWoods Consulting, prepared a summary of the actions taken as part of their community outreach efforts. For the month of February 2025, those actions include:

- **Ongoing basis:** Four (4) posts on each the BristolVALandfill.org site and the existing City of Bristol Landfill Notifications and Information page covering important updates including:

- Progress updates related to remediation efforts and normal maintenance activities at the Quarry Landfill
- Updates at the Quarry Landfill included replacing faulty pumps; cleaning of the benzene/leachate tanks and sending the extracted waste to an off-site facility; assessing issues with the stormwater flow meter; working with our engineering partners to ensure temperature probes within the landfill are working correctly; pumping out stormwater that accumulated during heavy rains; clearing frozen sump lines; fixing vacuum issues with wells; adding soil around the Sidewall Odor Mitigation System to improve efficiency; and moving soil to address areas within the landfill that are experiencing settlement issues.
- The City has also issued a bid request for a new permanent flare and emergency generator at the landfill. The new permanent flare, which will require a new air permit, would double the capacity of the previous flare, and matches the capacity of current temporary flare.
- Weekly updates on landing page on [Bristolvalandfill.org](http://Bristolvalandfill.org) titled “Air Sampling and Air Monitoring” that includes a summary of the air sampling and monitoring being conducted by Bristol, VA around the quarry landfill.
  - Website now includes weekly air monitoring reports starting from May 15, 2023, and running through February 9, 2025. Additional reports will be posted as the they are received.
- E-mail communication sent to the list of members of the public signed up through the Bristol, VA website, the [BristolVALandfill.org](http://BristolVALandfill.org) website, or at subsequent Open Houses to receive information via e-mail
  - E-mails sent included weekly remediation progress update and links to website updates and latest news articles.
  - All submissions are reviewed by the City and DEQ.



# Appendix A

## Surface Emissions Monitoring Summary

## Quarterly SEM

SCS performed the Fourth Quarter surface emissions monitoring event on December 4, 2024. The results of the Quarterly SEM were summarized in the December 2024 Compliance Report for the SWP No. 588 Landfill. A report outlining the results and exceedance locations will be included in the Semi-Annual Report to be submitted to VDEQ prior to March 1, 2025.

The First Quarter 2025 SEM Event is scheduled to be completed by March 31, 2025.

## Weekly SEM

In addition to the standard regulatory quarterly surface emissions monitoring, the monitoring in February generally conformed to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The SEM route included the waste footprint of the Permit No. 588 landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at applicable surface cover penetrations within the waste footprint.

The Facility submitted letters to VDEQ describing the results of the February monitoring events on February 12, 2025; February 19, 2025; February 26, 2025; and March 5, 2025. Copies of those letters are included in this Appendix.

On February 20, 2024, the City submitted an Alternate Remedy Request for corrective actions for five exceedance locations where an exceedance was recorded on at least three separate monitoring events throughout the Fourth Quarter 2024. Adjustments to vacuum, placement of additional cover soil, and well dewatering improvements (the corrective actions outlined in this request) have been successful at reducing methane concentrations below the regulatory threshold at all five locations as of the February 24, 2025 monitoring event.

The Facility is also taking proactive steps to limit fugitive surface emissions including dewatering activities, additional cover soil placement, and LFG system maintenance and tuning to increase gas extraction.

February 19, 2025  
File No. 02218208.04

Mr. Jonathan Chapman  
Enforcement Specialist  
Virginia Department of Environmental Quality  
SW Regional Office  
355-A Deadmore Street  
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 10, 2025  
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Management Facility located in Bristol, Virginia on February 10, 2025. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.



Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	168
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	68
Number of Exceedances	1
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	1

## REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive retests.

A summary of ongoing exceedance points is provided in Table 2.



Table 2. Ongoing Weekly SEM Exceedances

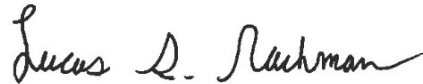
Point ID	Initial Exceedance Date	2/10/25 Event	2/10/25 Event Result	Comments
EW-82	10/16/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-95	10/21/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-76	11/26/24	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-86	11/26/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-97	12/18/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-90	1/17/25	N/A	Passed	Requires 1-Month Retest
EW-80	1/23/25	N/A	Passed	Requires 1-Month Retest
EW-75	1/30/25	2 <sup>nd</sup> 10-Day Retest	Passed	Requires 1-Month Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,



William J. Fabrie  
Staff Professional  
SCS Engineers



Lucas S. Nachman  
Senior Project Professional  
SCS Engineers

LSN/WJF

cc: Randall Eads, City of Bristol  
Jonathan Hayes, City of Bristol  
Laura Socia, City of Bristol  
Susan "Tracey" Blalock, VDEQ

Encl. Surface Emissions Monitoring Results  
Bristol SEM Route Drawing

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 10, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
1	1.9 PPM	OK			Start Serpentine Route
2	1.8 PPM	OK			
3	10.4 PPM	OK			
4	1.8 PPM	OK			
5	1.7 PPM	OK			
6	1.6 PPM	OK			
7	1.6 PPM	OK			
8	1.6 PPM	OK			
9	1.6 PPM	OK			
10	1.6 PPM	OK			
11	1.6 PPM	OK			
12	1.6 PPM	OK			
13	1.6 PPM	OK			
14	1.6 PPM	OK			
15	1.6 PPM	OK			
16	2.8 PPM	OK			
17	2.8 PPM	OK			
18	3.0 PPM	OK			
19	3.9 PPM	OK			
20	2.5 PPM	OK			
21	11.6 PPM	OK			
22	1.9 PPM	OK			
23	4.6 PPM	OK			
24	2.9 PPM	OK			
25	1.7 PPM	OK			
26	2.9 PPM	OK			
27	1.9 PPM	OK			
28	4.7 PPM	OK			
29	14.3 PPM	OK			
30	19.3 PPM	OK			
31	9.1 PPM	OK			
32	10.2 PPM	OK			
33	141.0 PPM	OK			
34	471.0 PPM	OK			
35	105.0 PPM	OK			
36	73.9 PPM	OK			
37	11.5 PPM	OK			
38	2.8 PPM	OK			
39	2.8 PPM	OK			
40	4.3 PPM	OK			
41	3.7 PPM	OK			
42	2.4 PPM	OK			
43	2.4 PPM	OK			
44	1.8 PPM	OK			
45	1.6 PPM	OK			
46	1.6 PPM	OK			
47	1.6 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 10, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
48	2.2 PPM	OK			
49	2.0 PPM	OK			
50	2.1 PPM	OK			
51	1.9 PPM	OK			
52	1.6 PPM	OK			
53	4.3 PPM	OK			
54	1.7 PPM	OK			
55	1.5 PPM	OK			
56	2.3 PPM	OK			
57	2.3 PPM	OK			
58	2.8 PPM	OK			
59	1.9 PPM	OK			
60	1.5 PPM	OK			
61	2.1 PPM	OK			
62	2.3 PPM	OK			
63	1.8 PPM	OK			
64	1.9 PPM	OK			
65	2.0 PPM	OK			
66	2.4 PPM	OK			
67	2.7 PPM	OK			
68	3.3 PPM	OK			
69	2.9 PPM	OK			
70	7.8 PPM	OK			
71	6.0 PPM	OK			
72	8.4 PPM	OK			
73	1.9 PPM	OK			
74	2.4 PPM	OK			
75	80.9 PPM	OK			
76	6.4 PPM	OK			
77	9.4 PPM	OK			
78	3.5 PPM	OK			
79	5.3 PPM	OK			
80	1.7 PPM	OK			
81	1.7 PPM	OK			
82	1.4 PPM	OK			
83	1.4 PPM	OK			
84	1.7 PPM	OK			
85	2.7 PPM	OK			
86	2.4 PPM	OK			
87	2.4 PPM	OK			
88	3.0 PPM	OK			
89	1.4 PPM	OK			
90	3.4 PPM	OK			
91	2.0 PPM	OK			
92	2.3 PPM	OK			
93	12.6 PPM	OK			
94	9.4 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 10, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
95	2.0 PPM	OK			
96	1.4 PPM	OK			
97	2.2 PPM	OK			
98	2.0 PPM	OK			
99	1.6 PPM	OK			
100	1.4 PPM	OK			End Serpentine Route
101	93.5 PPM	OK			EW-52
102	16.6 PPM	OK			TP-4
103	44.6 PPM	OK			EW-60
104	9.0 PPM	OK			EW-48
105	13.0 PPM	OK			TP-6
106	2.7 PPM	OK			EW-61
107	1.6 PPM	OK			EW-50
108	108.0 PPM	OK			EW-67
109	3.7 PPM	OK			EW-47
110	64.7 PPM	OK			EW-54
111	2.3 PPM	OK			EW-55
112	21.6 PPM	OK			EW-92
113	2.0 PPM	OK			EW-91
114	3.6 PPM	OK			EW-96
115	6.2 PPM	OK			TP-2
116	191.0 PPM	OK			EW-66
117	2.2 PPM	OK			EW-58
118	16.8 PPM	OK			EW-57
119	4.8 PPM	OK			TP-1
120	15.9 PPM	OK			EW-59
121	19.2 PPM	OK			EW-100
122	13.0 PPM	OK			EW-56
123	154.0 PPM	OK			EW-97
124	81.1 PPM	OK			EW-53
125	1.4 PPM	OK			TP-3
126	4.9 PPM	OK			EW-51
127	1.7 PPM	OK			TP-5
128	3.5 PPM	OK			EW-68
129	1.6 PPM	OK			EW-87
130	1.4 PPM	OK			EW-38
131	2.3 PPM	OK			TP-7
132	4.3 PPM	OK			EW-49
133	1.3 PPM	OK			EW-83
134	1.2 PPM	OK			EW-65
135	1.4 PPM	OK			EW-81
136	2.4 PPM	OK			TP-8
137	2.3 PPM	OK			EW-64
138	2.9 PPM	OK			EW-63
139	2.6 PPM	OK			EW-42
140	4644.0 PPM	HIGH_ALARM	36.60120	-82.14801	EW-76

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 10, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
141	3.7 PPM	OK			TP-9
142	2.6 PPM	OK			EW-62
143	8.5 PPM	OK			EW-74
144	8.8 PPM	OK			EW-32R
145	2.5 PPM	OK			EW-69
146	1.3 PPM	OK			EW-71
147	2.0 PPM	OK			EW-72
148	1.1 PPM	OK			EW-70
149	1.9 PPM	OK			EW-73
150	16.5 PPM	OK			EW-78
151	10.6 PPM	OK			EW-82
152	1.5 PPM	OK			EW-36A
153	1.1 PPM	OK			EW-85
154	1.4 PPM	OK			EW-88
155	2.6 PPM	OK			EW-89
156	1.6 PPM	OK			EW-93
157	1.6 PPM	OK			EW-94
158	2.5 PPM	OK			EW-98
159	1.5 PPM	OK			EW-99
160	3.8 PPM	OK			EW-95
161	56.0 PPM	OK			EW-90
162	1.5 PPM	OK			EW-86
163	2.9 PPM	OK			EW-84
164	1.4 PPM	OK			EW-80
165	1.1 PPM	OK			EW-79
166	0.9 PPM	OK			EW-77
167	1.0 PPM	OK			EW-33B
168	7.2 PPM	OK			EW-75

Number of locations sampled:	168
Number of exceedance locations:	1

**NOTES:**

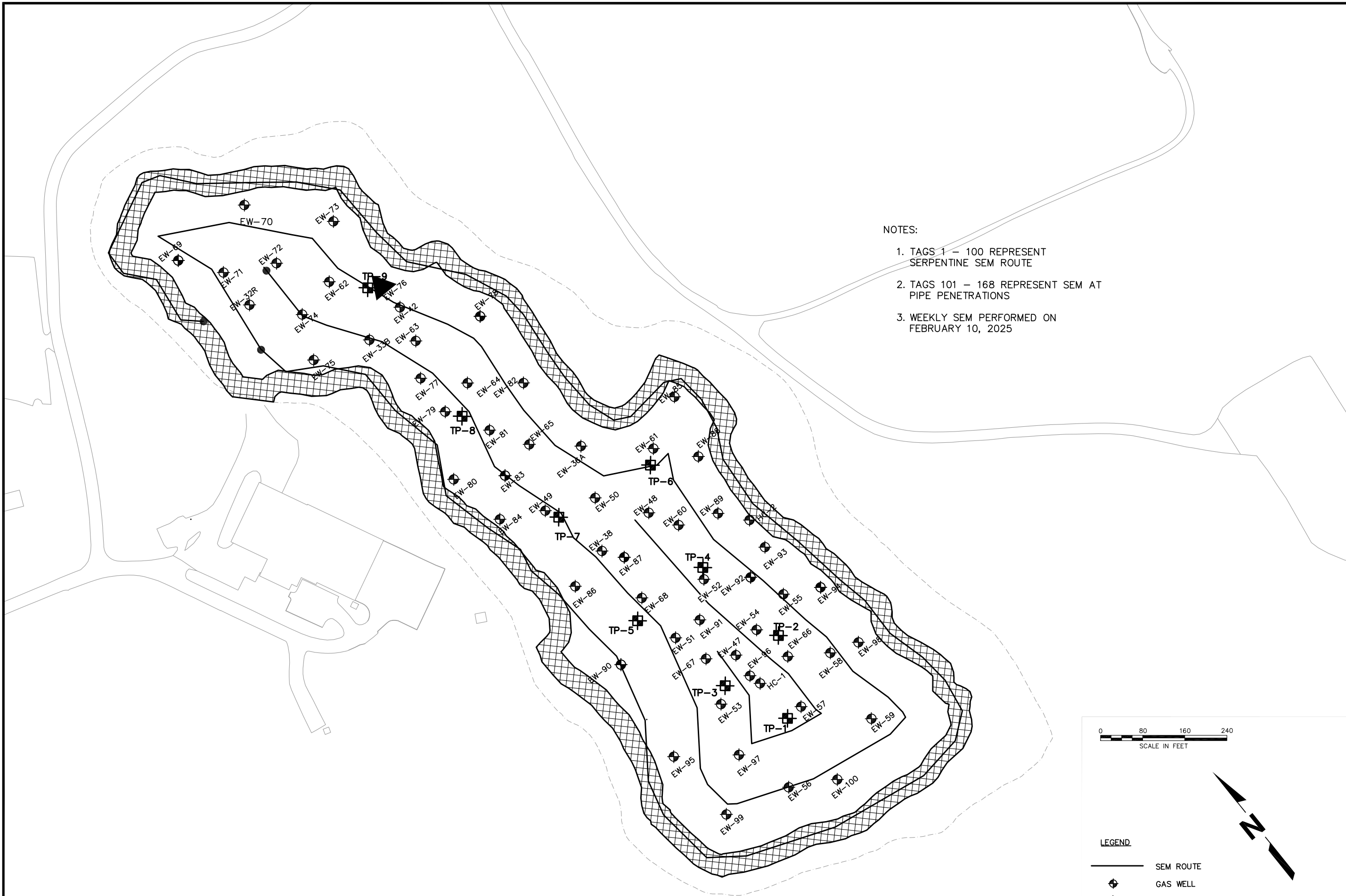
Points 1 through 100 represent serpentine SEM route.  
 Points 101 through 168 represent SEM at Pipe Penetrations  
 Weather Conditions: Sunny, 42°F Wind: 7 MPH SW

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

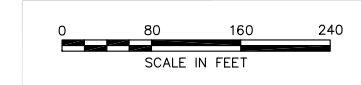
2/10/2025	11:14	ZERO	0.0	PPM
2/10/2025	11:15	SPAN	501.0	PPM

Background Reading:

2/10/2025	11:20	Upwind	2.1	PPM
2/10/2025	11:32	Downwind	2.1	PPM



- NOTES:
1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
  2. TAGS 101 – 168 REPRESENT SEM AT PIPE PENETRATIONS
  3. WEEKLY SEM PERFORMED ON FEBRUARY 10, 2025



- LEGEND**
- SEM ROUTE
  - ⊕ GAS WELL
  - ⊕ TEMPERATURE PROBE
  - 79 EXCEEDANCE LOCATION
  - ▲ 75 MONITORING ROUTE ENDPOINT
  -

SHEET TITLE <b>SEM ROUTE WITH BUFFER AREA</b>		NO. 1 REVISION DATE
PROJECT TITLE <b>SURFACE EMISSIONS MONITORING          SOLID WASTE PERMIT #588</b>		
CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID          WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VA 24201		
FILE: 02218208.04		
DATE: 2/10/25		
SCALE: AS SHOWN		
DRAWING NO. <b>1</b> of 1		
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 15521 MIDLOTHIAN TPK - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433	DWN. BY: JSA	O/A RW BY: APP. BY:

February 26, 2025  
File No. 02218208.04

Mr. Jonathan Chapman  
Enforcement Specialist  
Virginia Department of Environmental Quality  
SW Regional Office  
355-A Deadmore Street  
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 17, 2025  
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Management Facility located in Bristol, Virginia on February 17, 2025. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.



Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	167
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	67
Number of Exceedances	1
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	1

## REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive retests.

On February 20, 2024, the City submitted an Alternate Remedy Request for corrective actions for exceedances located at the surface cover penetration of vertical extraction wells EW-76, EW-82, EW-86, EW-95, and EW-97. Details regarding the specific proposed corrective actions are outlined in the letter request. As of monitoring conducted on February 17, 2024, these corrective actions have been successful at reducing methane concentrations below the regulatory threshold at four of the five locations.

A summary of ongoing exceedance points is provided in Table 2.



Table 2. Ongoing Weekly SEM Exceedances

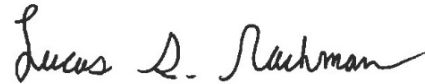
Point ID	Initial Exceedance Date	2/17/25 Event	2/17/25 Event Result	Comments
EW-82	10/16/24	N/A	Passed	Alternate Remedy Requested – corrective actions have resolved exceedance
EW-95	10/21/24	N/A	Passed	Alternate Remedy Requested – corrective actions have resolved exceedance
EW-76	11/26/24	N/A	Failed	Alternate Remedy Requested – undergoing corrective actions
EW-86	11/26/24	N/A	Passed	Alternate Remedy Requested – corrective actions have resolved exceedance
EW-97	12/18/24	N/A	Passed	Alternate Remedy Requested – corrective actions have resolved exceedance
EW-90	1/17/25	1-Month Retest	Passed	Exceedance Resolved
EW-80	1/23/25	N/A	Passed	Requires 1-Month Retest
EW-75	1/30/25	N/A	Passed	Requires 1-Month Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,



William J. Fabrie  
Staff Professional  
SCS Engineers



Lucas S. Nachman  
Senior Project Professional  
SCS Engineers

LSN/WJF

cc: Randall Eads, City of Bristol  
Jonathan Hayes, City of Bristol  
Laura Socia, City of Bristol  
Susan "Tracey" Blalock, VDEQ

Encl. Surface Emissions Monitoring Results  
Bristol SEM Route Drawing

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 17, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
1	3.4 PPM	OK			Start Serpentine Route
2	3.7 PPM	OK			
3	3.8 PPM	OK			
4	6.4 PPM	OK			
5	3.9 PPM	OK			
6	3.6 PPM	OK			
7	3.6 PPM	OK			
8	3.6 PPM	OK			
9	3.7 PPM	OK			
10	3.5 PPM	OK			
11	3.4 PPM	OK			
12	3.2 PPM	OK			
13	3.6 PPM	OK			
14	3.7 PPM	OK			
15	3.5 PPM	OK			
16	3.2 PPM	OK			
17	3.4 PPM	OK			
18	3.3 PPM	OK			
19	3.2 PPM	OK			
20	3.3 PPM	OK			
21	3.2 PPM	OK			
22	3.3 PPM	OK			
23	3.1 PPM	OK			
24	3.5 PPM	OK			
25	3.6 PPM	OK			
26	3.2 PPM	OK			
27	3.1 PPM	OK			
28	3.3 PPM	OK			
29	3.4 PPM	OK			
30	3.8 PPM	OK			
31	41.0 PPM	OK			
32	8.2 PPM	OK			
33	15.4 PPM	OK			
34	4.0 PPM	OK			
35	25.0 PPM	OK			
36	11.6 PPM	OK			
37	68.6 PPM	OK			
38	55.7 PPM	OK			
39	5.2 PPM	OK			
40	3.5 PPM	OK			
41	3.9 PPM	OK			
42	4.5 PPM	OK			
43	3.6 PPM	OK			
44	3.5 PPM	OK			
45	2.9 PPM	OK			
46	3.3 PPM	OK			
47	3.7 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 17, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
48	3.5 PPM	OK			
49	4.2 PPM	OK			
50	4.2 PPM	OK			
51	2.9 PPM	OK			
52	2.7 PPM	OK			
53	2.7 PPM	OK			
54	2.8 PPM	OK			
55	2.9 PPM	OK			
56	2.9 PPM	OK			
57	3.3 PPM	OK			
58	2.8 PPM	OK			
59	2.6 PPM	OK			
60	2.6 PPM	OK			
61	2.8 PPM	OK			
62	4.0 PPM	OK			
63	5.5 PPM	OK			
64	2.7 PPM	OK			
65	2.9 PPM	OK			
66	4.2 PPM	OK			
67	2.6 PPM	OK			
68	2.8 PPM	OK			
69	2.6 PPM	OK			
70	2.9 PPM	OK			
71	2.7 PPM	OK			
72	2.7 PPM	OK			
73	2.5 PPM	OK			
74	3.0 PPM	OK			
75	2.6 PPM	OK			
76	2.6 PPM	OK			
77	2.5 PPM	OK			
78	2.8 PPM	OK			
79	3.4 PPM	OK			
80	2.8 PPM	OK			
81	3.1 PPM	OK			
82	3.3 PPM	OK			
83	7.2 PPM	OK			
84	2.8 PPM	OK			
85	2.7 PPM	OK			
86	2.6 PPM	OK			
87	2.9 PPM	OK			
88	2.7 PPM	OK			
89	2.3 PPM	OK			
90	2.7 PPM	OK			
91	2.5 PPM	OK			
92	2.3 PPM	OK			
93	2.5 PPM	OK			
94	25.6 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 17, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
95	2.6 PPM	OK			
96	2.4 PPM	OK			
97	2.5 PPM	OK			
98	2.4 PPM	OK			
99	2.6 PPM	OK			
100	2.6 PPM	OK			End Serpentine Route
101	30.4 PPM	OK			EW-52
102	2.9 PPM	OK			TP-4
103	5.0 PPM	OK			EW-60
104	2.4 PPM	OK			EW-48
105	2.4 PPM	OK			TP-6
106	3.1 PPM	OK			EW-61
107	2.3 PPM	OK			EW-50
108	2.8 PPM	OK			EW-67
109	2.3 PPM	OK			EW-47
110	2.5 PPM	OK			EW-54
111	2.3 PPM	OK			EW-55
112	2.4 PPM	OK			EW-92
113	2.4 PPM	OK			EW-91
114	2.5 PPM	OK			EW-96
115	2.5 PPM	OK			TP-2
116	2.4 PPM	OK			EW-66
117	2.6 PPM	OK			EW-58
118	3.2 PPM	OK			EW-57
119	3.0 PPM	OK			TP-1
120	3.3 PPM	OK			EW-59
121	3.9 PPM	OK			EW-100
122	26.7 PPM	OK			EW-56
123	4.9 PPM	OK			EW-97
124	3.1 PPM	OK			EW-53
125	2.9 PPM	OK			TP-3
126	14.4 PPM	OK			EW-51
127	3.0 PPM	OK			TP-5
128	4.1 PPM	OK			EW-68
129	2.7 PPM	OK			EW-87
130	2.4 PPM	OK			EW-38
131	2.3 PPM	OK			TP-7
132	2.2 PPM	OK			EW-49
133	2.4 PPM	OK			EW-83
134	2.2 PPM	OK			EW-65
135	2.3 PPM	OK			EW-81
136	2.9 PPM	OK			TP-8
137	2.6 PPM	OK			EW-64
138	4.7 PPM	OK			EW-63
139	3.3 PPM	OK			EW-42
140	686.0 PPM	HIGH_ALARM	36.60120	-82.14801	EW-76

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 17, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
141	3.5 PPM	OK			TP-9
142	2.1 PPM	OK			EW-62
143	2.2 PPM	OK			EW-74
144	2.3 PPM	OK			EW-32R
145	2.5 PPM	OK			EW-69
146	2.1 PPM	OK			EW-71
147	2.1 PPM	OK			EW-72
148	1.9 PPM	OK			EW-73
149	8.7 PPM	OK			EW-78
150	2.0 PPM	OK			EW-82
151	2.0 PPM	OK			EW-36A
152	2.7 PPM	OK			EW-85
153	4.5 PPM	OK			EW-88
154	2.6 PPM	OK			EW-89
155	2.2 PPM	OK			EW-93
156	3.6 PPM	OK			EW-94
157	104.0 PPM	OK			EW-98
158	3.3 PPM	OK			EW-99
159	3.2 PPM	OK			EW-95
160	2.6 PPM	OK			EW-90
161	2.3 PPM	OK			EW-86
162	3.4 PPM	OK			EW-84
163	3.2 PPM	OK			EW-80
164	3.5 PPM	OK			EW-79
165	4.3 PPM	OK			EW-77
166	2.7 PPM	OK			EW-33B
167	16.8 PPM	OK			EW-75

Number of locations sampled:	167
Number of exceedance locations:	1

**NOTES:**

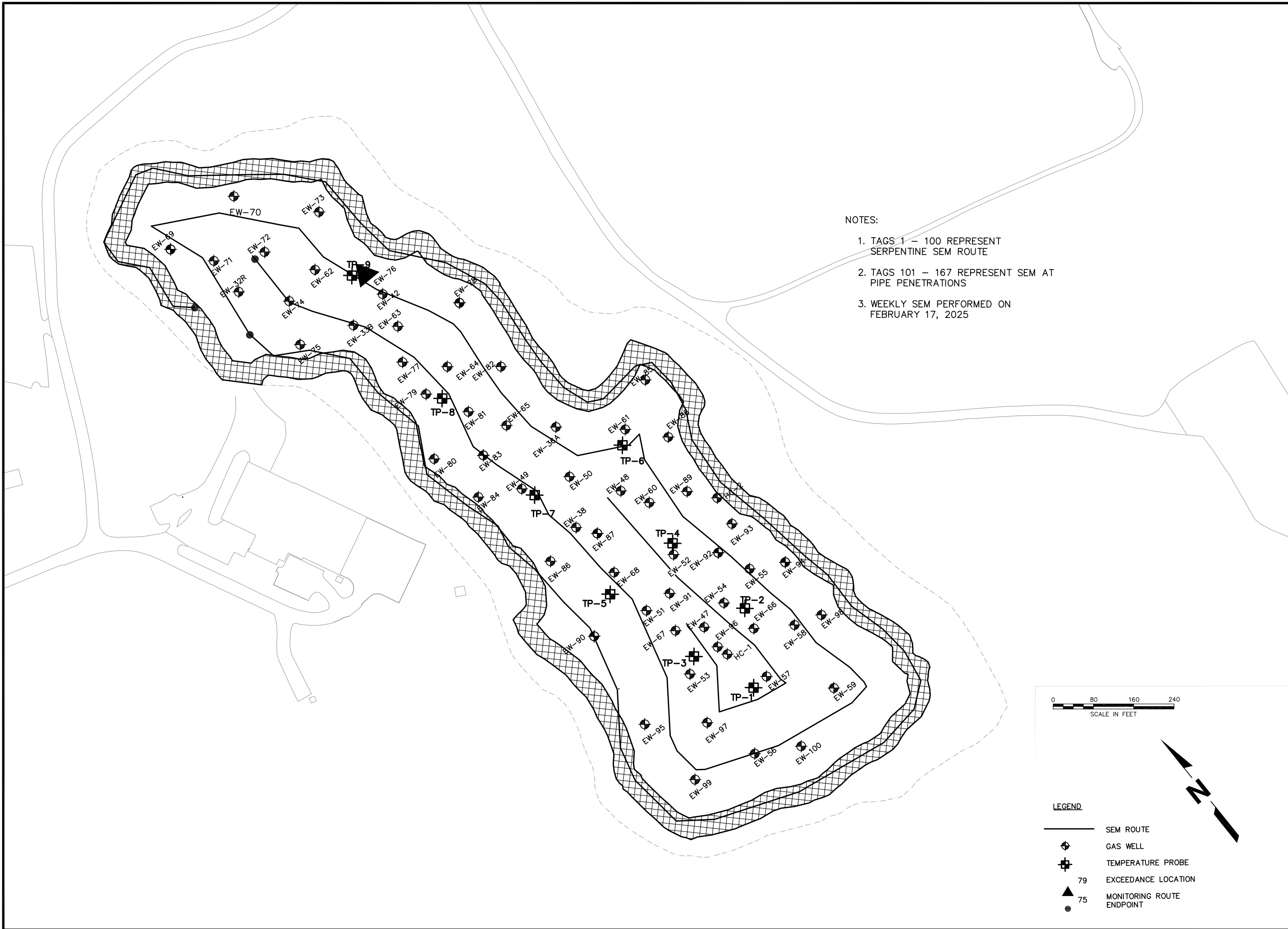
Points 1 through 100 represent serpentine SEM route.  
Points 101 through 167 represent SEM at Pipe Penetrations  
Weather Conditions: Sunny, 37°F Wind: 11 MPH NW

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

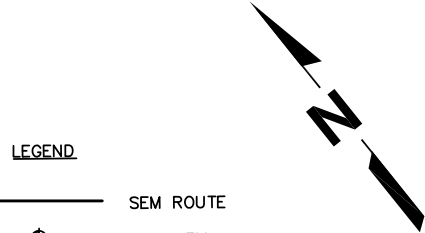
2/17/2025	10:44	ZERO	0.1	PPM
2/17/2025	10:46	SPAN	499.0	PPM

Background Reading:

2/17/2025	10:48	Upwind	2.6	PPM
2/17/2025	10:53	Downwind	3.8	PPM



- NOTES:
1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
  2. TAGS 101 – 167 REPRESENT SEM AT PIPE PENETRATIONS
  3. WEEKLY SEM PERFORMED ON FEBRUARY 17, 2025



- LEGEND**
- SEM ROUTE
  - ⊕ GAS WELL
  - ⊕ TEMPERATURE PROBE
  - 79 EXCEEDANCE LOCATION
  - ▲ 75 MONITORING ROUTE ENDPOINT
  - 75 MONITORING ROUTE ENDPOINT

SHEET TITLE <b>SEM ROUTE WITH BUFFER AREA</b>		REVISION   	DATE   
PROJECT TITLE <b>SURFACE EMISSIONS MONITORING SOLID WASTE PERMIT #588</b>		NO. 1 2 3 4	
CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VA 24201		FILE: 02218208.04	
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 15521 MIDLOTHIAN TPK - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433		DATE: 2/17/25	
PROJ. NO. 02218208.04 DSN. BY: [ ] O/A RW BY: [ ] APP. BY: [ ]		SCALE: AS SHOWN	
DRAWING NO. <b>1</b>		of 1	

March 5, 2025  
File No. 02218208.04

Mr. Jonathan Chapman  
Enforcement Specialist  
Virginia Department of Environmental Quality  
SW Regional Office  
355-A Deadmore Street  
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 24, 2025  
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Management Facility located in Bristol, Virginia on February 24, 2025. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.



Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	167
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	67
Number of Exceedances	1
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	1

## REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive retests.

On February 20, 2024, the City submitted an Alternate Remedy Request for corrective actions for exceedances at five specific locations. Details regarding the specific proposed corrective actions are outlined in the letter request. As of monitoring conducted on February 24, 2024, these corrective actions have been successful at reducing methane concentrations below the regulatory threshold at all five locations.

A summary of ongoing exceedance points is provided in Table 2.

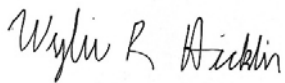


Table 2. Ongoing Weekly SEM Exceedances

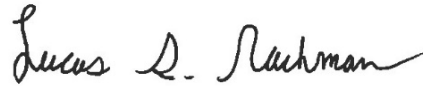
Point ID	Initial Exceedance Date	2/24/25 Event	2/24/25 Event Result	Comments
EW-76	11/26/24	N/A	Passed	Alternate Remedy Requested – corrective actions have resolved exceedance
EW-80	1/23/25	1-Month Retest	Passed	Exceedance Resolved
EW-75	1/30/25	1-Month Retest	Passed	Exceedance Resolved

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,



Wylie R Hicklin  
Associate Professional  
SCS Engineers



Lucas S. Nachman  
Senior Project Professional  
SCS Engineers

LSN/WRH

cc: Randall Eads, City of Bristol  
Jonathan Hayes, City of Bristol  
Laura Socia, City of Bristol  
Susan "Tracey" Blalock, VDEQ

Encl. Surface Emissions Monitoring Results  
Bristol SEM Route Drawing

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 24, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
1	2.3 PPM	OK			Start Serpentine Route
2	2.3 PPM	OK			
3	4.1 PPM	OK			
4	3.5 PPM	OK			
5	2.7 PPM	OK			
6	2.4 PPM	OK			
7	2.1 PPM	OK			
8	2.5 PPM	OK			
9	2.4 PPM	OK			
10	2.3 PPM	OK			
11	2.1 PPM	OK			
12	2.3 PPM	OK			
13	2.1 PPM	OK			
14	1.9 PPM	OK			
15	2.0 PPM	OK			
16	2.2 PPM	OK			
17	2.5 PPM	OK			
18	2.4 PPM	OK			
19	2.5 PPM	OK			
20	5.7 PPM	OK			
21	3.5 PPM	OK			
22	6.0 PPM	OK			
23	3.2 PPM	OK			
24	1.6 PPM	OK			
25	1.8 PPM	OK			
26	8.6 PPM	OK			
27	1.8 PPM	OK			
28	2.8 PPM	OK			
29	10.1 PPM	OK			
30	268.0 PPM	OK			
31	179.0 PPM	OK			
32	22.6 PPM	OK			
33	326.0 PPM	OK			
34	52.9 PPM	OK			
35	71.9 PPM	OK			
36	5.4 PPM	OK			
37	6.7 PPM	OK			
38	4.4 PPM	OK			
39	8.9 PPM	OK			
40	2.4 PPM	OK			
41	2.2 PPM	OK			
42	4.0 PPM	OK			
43	2.2 PPM	OK			
44	4.2 PPM	OK			
45	6.2 PPM	OK			
46	6.0 PPM	OK			
47	29.7 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 24, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
48	3.2 PPM	OK			
49	3.9 PPM	OK			
50	5.0 PPM	OK			
51	1.3 PPM	OK			
52	1.2 PPM	OK			
53	1.2 PPM	OK			
54	1.4 PPM	OK			
55	2.6 PPM	OK			
56	8.2 PPM	OK			
57	6.3 PPM	OK			
58	1.4 PPM	OK			
59	1.2 PPM	OK			
60	1.9 PPM	OK			
61	1.6 PPM	OK			
62	11.2 PPM	OK			
63	22.6 PPM	OK			
64	2.8 PPM	OK			
65	1.2 PPM	OK			
66	1.8 PPM	OK			
67	1.9 PPM	OK			
68	1.7 PPM	OK			
69	18.4 PPM	OK			
70	2.4 PPM	OK			
71	2.1 PPM	OK			
72	1.5 PPM	OK			
73	114.0 PPM	OK			
74	26.8 PPM	OK			
75	5.7 PPM	OK			
76	14.3 PPM	OK			
77	1.9 PPM	OK			
78	1.3 PPM	OK			
79	2.9 PPM	OK			
80	2.0 PPM	OK			
81	6.3 PPM	OK			
82	3.5 PPM	OK			
83	2.4 PPM	OK			
84	2.9 PPM	OK			
85	5.0 PPM	OK			
86	5.3 PPM	OK			
87	3.0 PPM	OK			
88	5.0 PPM	OK			
89	0.9 PPM	OK			
90	5.3 PPM	OK			
91	2.8 PPM	OK			
92	1.6 PPM	OK			
93	238.0 PPM	OK			
94	5.2 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 24, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
95	2.9 PPM	OK			
96	9.6 PPM	OK			
97	24.7 PPM	OK			
98	1.6 PPM	OK			
99	3.1 PPM	OK			
100	11.8 PPM	OK			End Serpentine Route
101	126.0 PPM	OK			EW-52
102	1.6 PPM	OK			TP-4
103	416.0 PPM	OK			EW-60
104	3.4 PPM	OK			EW-48
105	110.0 PPM	OK			TP-6
106	2.8 PPM	OK			EW-61
107	1.7 PPM	OK			EW-50
108	243.0 PPM	OK			EW-67
109	1.1 PPM	OK			EW-47
110	1504.0 PPM	HIGH_ALARM	36.59859	-82.14738	EW-54
111	1.8 PPM	OK			EW-55
112	83.5 PPM	OK			EW-92
113	3.1 PPM	OK			EW-91
114	3.6 PPM	OK			EW-96
115	1.7 PPM	OK			TP-2
116	658.0 PPM	HIGH_ALARM	36.59842	-82.14736	EW-66
117	15.9 PPM	OK			EW-58
118	9.0 PPM	OK			EW-57
119	2.0 PPM	OK			TP-1
120	82.4 PPM	OK			EW-59
121	54.0 PPM	OK			EW-100
122	22.2 PPM	OK			EW-56
123	3.7 PPM	OK			EW-97
124	2117.0 PPM	HIGH_ALARM	36.59842	-82.14789	EW-53
125	5.4 PPM	OK			TP-3
126	9.7 PPM	OK			EW-51
127	5.3 PPM	OK			TP-5
128	7.3 PPM	OK			EW-68
129	3.2 PPM	OK			EW-87
130	4.6 PPM	OK			EW-38
131	44.1 PPM	OK			TP-7
132	3.7 PPM	OK			EW-49
133	1.0 PPM	OK			EW-83
134	0.8 PPM	OK			EW-65
135	0.9 PPM	OK			EW-81
136	1.1 PPM	OK			TP-8
137	1.1 PPM	OK			EW-64
138	2.3 PPM	OK			EW-63
139	15.3 PPM	OK			EW-42
140	67.7 PPM	OK			EW-76

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 24, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
141	20.2 PPM	OK			TP-9
142	0.8 PPM	OK			EW-62
143	1.9 PPM	OK			EW-74
144	2.5 PPM	OK			EW-32R
145	1.5 PPM	OK			EW-69
146	1.0 PPM	OK			EW-71
147	2.5 PPM	OK			EW-72
148	1.2 PPM	OK			EW-73
149	0.4 PPM	OK			EW-78
150	36.9 PPM	OK			EW-82
151	0.7 PPM	OK			EW-36A
152	31.2 PPM	OK			EW-85
153	4.8 PPM	OK			EW-88
154	3.0 PPM	OK			EW-89
155	1.9 PPM	OK			EW-93
156	1.1 PPM	OK			EW-94
157	1.0 PPM	OK			EW-98
158	17.6 PPM	OK			EW-99
159	46.7 PPM	OK			EW-95
160	14.0 PPM	OK			EW-90
161	119.0 PPM	OK			EW-86
162	3.7 PPM	OK			EW-84
163	2.3 PPM	OK			EW-80
164	1.6 PPM	OK			EW-79
165	3.5 PPM	OK			EW-77
166	5.0 PPM	OK			EW-33B
167	479.0 PPM	OK			EW-75

Number of locations sampled:	167
Number of exceedance locations:	3

**NOTES:**

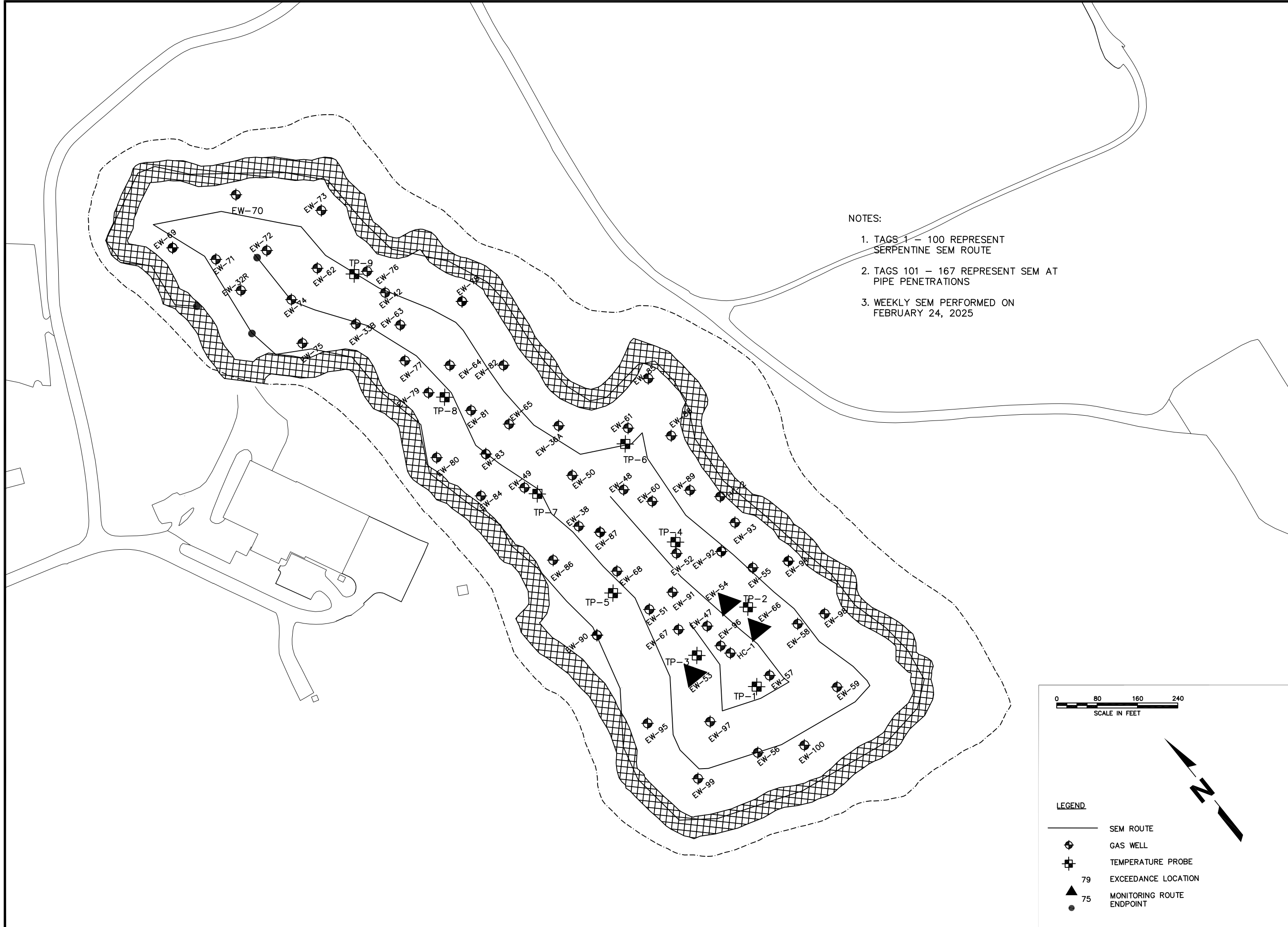
Points 1 through 100 represent serpentine SEM route.  
Points 101 through 167 represent SEM at Pipe Penetrations  
Weather Conditions: Sunny, 50°F Wind: 3 MPH NE

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

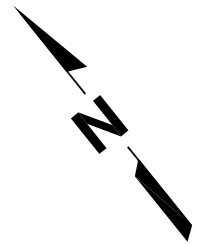
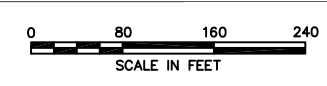
2/24/2025	10:40	ZERO	0.2	PPM
2/24/2025	10:43	SPAN	501.0	PPM

Background Reading:

2/24/2025	10:45	Upwind	2.6	PPM
2/24/2025	10:49	Downwind	3.8	PPM



- NOTES:
1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
  2. TAGS 101 – 167 REPRESENT SEM AT PIPE PENETRATIONS
  3. WEEKLY SEM PERFORMED ON FEBRUARY 24, 2025



- LEGEND**
- SEM ROUTE
  - ⊕ GAS WELL
  - ⊕ TEMPERATURE PROBE
  - ▲ 79 EXCEEDANCE LOCATION
  - 75 MONITORING ROUTE ENDPOINT

SHEET TITLE <b>SEM ROUTE WITH BUFFER AREA</b>	NO.	DATE
	REVISION	
PROJECT TITLE <b>SURFACE EMISSIONS MONITORING SOLID WASTE PERMIT #588</b>		
CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VA 24201		
<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 15521 MIDLOTHIAN TPK. - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7453 PROJ. NO. 02218208.04 DATE 2/24/25	C/A RW BY: APP. BY:	DWN. BY: CHK. BY:
FILE: 02218208.04	DATE: 2/24/25	
SCALE: AS SHOWN		
DRAWING NO. <b>1</b> of 1		

February 12, 2025  
File No. 02218208.04

Mr. Jonathan Chapman  
Enforcement Specialist  
Virginia Department of Environmental Quality  
SW Regional Office  
355-A Deadmore Street  
Abingdon, VA 24210

Subject: Weekly Surface Emissions Monitoring Event – February 4, 2025  
Bristol Integrated Solid Waste Facility – Bristol, Virginia

Dear Mr. Chapman:

On behalf of the City of Bristol (City), SCS Engineers (SCS), is pleased to submit the results of the Weekly Surface Emissions Monitoring event performed at the Bristol Integrated Solid Waste Management Facility located in Bristol, Virginia on February 4, 2025. This Weekly Surface Emissions Monitoring (SEM) Event was performed in accordance with Appendix A.1.i of the Consent Decree between the Commonwealth of Virginia and the City of Bristol.

The monitoring generally conforms to the requirements of 40 CFR 63.1960(c) and (d), and 40 CFR 60.36f(c) and (d), and 40 CFR 60, Appendix A, Method 21. The landfill gas (LFG) collection system is required to operate such that the methane concentration is less than 500 ppm above background at the landfill surface.

The monitoring route includes the entire waste footprint of the Permit No. 588 Landfill. Sampling was conducted with a Thermo Scientific TVA-2020 Flame Ionization Detector (FID) at 30-meter intervals and where visual observations indicated the potential for elevated concentrations of LFG, such as distressed vegetation and surface cover cracks. In addition, in accordance with 40 CFR 63.1958(d)(ii)(2) and 40 CFR 60.34f(d), monitoring was conducted at all surface cover penetrations within the waste footprint, including at the temperature probes. The approximate monitoring route and sampling locations are presented in the attached Drawing.

At the time of monitoring, all areas of the Permit No. 588 Landfill footprint are subject to regulatory monitoring based on the regulatory schedule stipulated in 40 CFR 63.1960(b) and 40 CFR 60.36f(b). The Permit No. 588 Landfill has a surface area of approximately 17.3 acres. Therefore, the minimum number of sampling points to cover the appropriate portion of the landfill footprint, utilizing a 30-meter grid interval, is approximately 82 (4.75 points per acre). A summary of the results of the surface emissions monitoring is provided in Table 1.



Table 1. Summary of Surface Emissions Monitoring

Description	Quantity
Number of Points Sampled	168
Number of Points in Serpentine Route	100
Number of Points at Surface Cover Penetrations	68
Number of Exceedances	2
Number of Serpentine Exceedances	0
Number of Pipe Penetration Exceedances	2

## REMONITORING OF ONGOING EXCEEDANCES

In accordance with 40 CFR 63.1960(c)(4)(ii) and 40 CFR 60.36f(c)(4)(ii), corrective actions and a remonitoring event are to be performed within 10 days of the initial exceedance. In accordance with 40 CFR 63.1960(c)(4)(iii) and 40 CFR 60.36f(c)(4)(iii) additional corrective actions and a second 10-day retest are to be performed if the initial 10-day retest indicates methane values greater than the regulatory threshold. The Facility performs corrective actions, as necessary, including wellhead vacuum adjustments, the installation of well-bore seals, and addition of soil cover prior to weekly monitoring events at locations that previously exhibited elevated methane concentrations.

In accordance with 40 CFR 63.1960(c)(4)(v) and 40 CFR 60.36f(c)(4)(v) a new well or collection device must be installed or an alternate remedy must be submitted within 120 days at locations that continue to exhibit methane concentrations above the regulatory threshold for two consecutive retests.

A summary of ongoing exceedance points is provided in Table 2.




Table 2. Ongoing Weekly SEM Exceedances

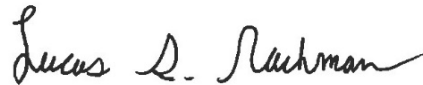
Point ID	Initial Exceedance Date	2/4/25 Event	2/4/25 Event Result	Comments
EW-82	10/16/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-95	10/21/24	N/A	Failed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-76	11/26/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-86	11/26/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
EW-97	12/18/24	N/A	Passed	Subject to 40 CFR 63.1960(c)(4)(v)
Tag 28	12/31/24	1-Month Retest Follow-Up	Passed	Exceedance Resolved
Tag 31	12/31/24	1-Month Retest Follow-Up	Passed	Exceedance Resolved
EW-90	1/17/25	2 <sup>nd</sup> 10-Day Retest	Passed	Requires 1-Month Retest
EW-80	1/23/25	N/A	Passed	Requires 1-Month Retest
EW-75	1/30/25	10-Day Retest	Failed	Requires 2 <sup>nd</sup> 10-Day Retest

If you have questions or require additional information, please contact either of the undersigned.

Sincerely,



William J. Fabrie  
Staff Professional  
SCS Engineers



Lucas S. Nachman  
Senior Project Professional  
SCS Engineers

LSN/WJF

cc: Randall Eads, City of Bristol  
Jonathan Hayes, City of Bristol  
Laura Socia, City of Bristol  
Susan "Tracey" Blalock, VDEQ

Encl. Surface Emissions Monitoring Results  
Bristol SEM Route Drawing

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 4, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
1	1.6 PPM	OK			Start Serpentine Route
2	9.9 PPM	OK			
3	1.5 PPM	OK			
4	1.5 PPM	OK			
5	1.6 PPM	OK			
6	1.5 PPM	OK			
7	1.5 PPM	OK			
8	1.5 PPM	OK			
9	1.4 PPM	OK			
10	1.6 PPM	OK			
11	1.9 PPM	OK			
12	2.7 PPM	OK			
13	1.8 PPM	OK			
14	2.2 PPM	OK			
15	1.8 PPM	OK			
16	1.8 PPM	OK			
17	1.9 PPM	OK			
18	2.8 PPM	OK			
19	1.8 PPM	OK			
20	3.6 PPM	OK			
21	6.9 PPM	OK			
22	1.1 PPM	OK			
23	1.4 PPM	OK			
24	1.4 PPM	OK			
25	2.3 PPM	OK			
26	1.3 PPM	OK			
27	1.3 PPM	OK			
28	2.5 PPM	OK			
29	2.0 PPM	OK			
30	2.6 PPM	OK			
31	8.3 PPM	OK			
32	9.0 PPM	OK			
33	6.0 PPM	OK			
34	160.0 PPM	OK			
35	70.3 PPM	OK			
36	82.6 PPM	OK			
37	21.0 PPM	OK			
38	17.7 PPM	OK			
39	4.9 PPM	OK			
40	4.6 PPM	OK			
41	1.3 PPM	OK			
42	2.3 PPM	OK			
43	1.6 PPM	OK			
44	1.7 PPM	OK			
45	2.4 PPM	OK			
46	2.4 PPM	OK			
47	4.3 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 4, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
48	6.1 PPM	OK			
49	4.7 PPM	OK			
50	6.1 PPM	OK			
51	1.4 PPM	OK			
52	1.1 PPM	OK			
53	1.0 PPM	OK			
54	0.7 PPM	OK			
55	0.7 PPM	OK			
56	0.9 PPM	OK			
57	1.6 PPM	OK			
58	1.2 PPM	OK			
59	1.1 PPM	OK			
60	1.2 PPM	OK			
61	1.3 PPM	OK			
62	1.2 PPM	OK			
63	1.1 PPM	OK			
64	1.2 PPM	OK			
65	1.2 PPM	OK			
66	0.8 PPM	OK			
67	0.9 PPM	OK			
68	1.2 PPM	OK			
69	0.8 PPM	OK			
70	1.3 PPM	OK			
71	2.7 PPM	OK			
72	6.9 PPM	OK			
73	2.9 PPM	OK			
74	46.2 PPM	OK			
75	1.2 PPM	OK			
76	1.2 PPM	OK			
77	7.3 PPM	OK			
78	6.4 PPM	OK			
79	31.3 PPM	OK			
80	1.0 PPM	OK			
81	1.3 PPM	OK			
82	0.9 PPM	OK			
83	0.8 PPM	OK			
84	1.5 PPM	OK			
85	1.9 PPM	OK			
86	0.6 PPM	OK			
87	1.4 PPM	OK			
88	0.5 PPM	OK			
89	1.4 PPM	OK			
90	0.8 PPM	OK			
91	0.5 PPM	OK			
92	0.5 PPM	OK			
93	0.5 PPM	OK			
94	1.9 PPM	OK			

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 4, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
95	1.0 PPM	OK			
96	1.0 PPM	OK			
97	1.8 PPM	OK			
98	0.8 PPM	OK			
99	1.2 PPM	OK			
100	0.3 PPM	OK			End Serpentine Route
101	59.7 PPM	OK			EW-52
102	16.5 PPM	OK			TP-4
103	91.2 PPM	OK			EW-60
104	0.8 PPM	OK			EW-48
105	0.8 PPM	OK			TP-6
106	2.0 PPM	OK			EW-61
107	9.8 PPM	OK			EW-50
108	60.5 PPM	OK			EW-67
109	0.8 PPM	OK			EW-47
110	0.9 PPM	OK			EW-54
111	2.2 PPM	OK			EW-55
112	24.0 PPM	OK			EW-92
113	7.9 PPM	OK			EW-91
114	1.6 PPM	OK			EW-96
115	0.8 PPM	OK			TP-2
116	0.6 PPM	OK			EW-66
117	0.6 PPM	OK			EW-58
118	5.0 PPM	OK			EW-57
119	3.1 PPM	OK			TP-1
120	15.6 PPM	OK			EW-59
121	17.5 PPM	OK			EW-100
122	2.6 PPM	OK			EW-56
123	0.9 PPM	OK			EW-97
124	94.7 PPM	OK			EW-53
125	4.3 PPM	OK			TP-3
126	35.1 PPM	OK			EW-51
127	0.6 PPM	OK			TP-5
128	0.4 PPM	OK			EW-68
129	0.5 PPM	OK			EW-87
130	0.6 PPM	OK			EW-38
131	0.7 PPM	OK			TP-7
132	0.8 PPM	OK			EW-49
133	0.7 PPM	OK			EW-83
134	0.5 PPM	OK			EW-65
135	2.1 PPM	OK			EW-81
136	2.4 PPM	OK			TP-8
137	2.5 PPM	OK			EW-64
138	2.5 PPM	OK			EW-63
139	3.9 PPM	OK			EW-42
140	109.0 PPM	OK			EW-76

**EXHIBIT 1. SURFACE EMISSIONS MONITORING RESULTS  
WEEKLY MONITORING EVENT - FEBRUARY 4, 2025  
BRISTOL INTEGRATED SOLID WASTE FACILITY - BRISTOL, VIRGINIA**

ID #	Methane Concentration	Compliance	GPS Coordinates		Comments
			Lat.	Long.	
141	0.7 PPM	OK			TP-9
142	0.0 PPM	OK			EW-62
143	0.0 PPM	OK			EW-74
144	0.7 PPM	OK			EW-32R
145	0.0 PPM	OK			EW-69
146	0.0 PPM	OK			EW-71
147	0.0 PPM	OK			EW-72
148	0.1 PPM	OK			EW-70
149	0.1 PPM	OK			EW-73
150	0.0 PPM	OK			EW-78
151	0.3 PPM	OK			EW-82
152	0.7 PPM	OK			EW-36A
153	0.2 PPM	OK			EW-85
154	0.8 PPM	OK			EW-88
155	3.3 PPM	OK			EW-89
156	0.7 PPM	OK			EW-93
157	0.2 PPM	OK			EW-94
158	0.4 PPM	OK			EW-98
159	4.5 PPM	OK			EW-99
160	1223.0 PPM	HIGH_ALARM	36.59837	-82.14835	EW-95
161	1.0 PPM	OK			EW-90
162	43.6 PPM	OK			EW-86
163	5.8 PPM	OK			EW-84
164	2.7 PPM	OK			EW-80
165	1.4 PPM	OK			EW-79
166	0.3 PPM	OK			EW-77
167	10.8 PPM	OK			EW-33B
168	1203.0 PPM	HIGH_ALARM	36.60106	-82.14828	EW-75

Number of locations sampled:	168
Number of exceedance locations:	2

**NOTES:**

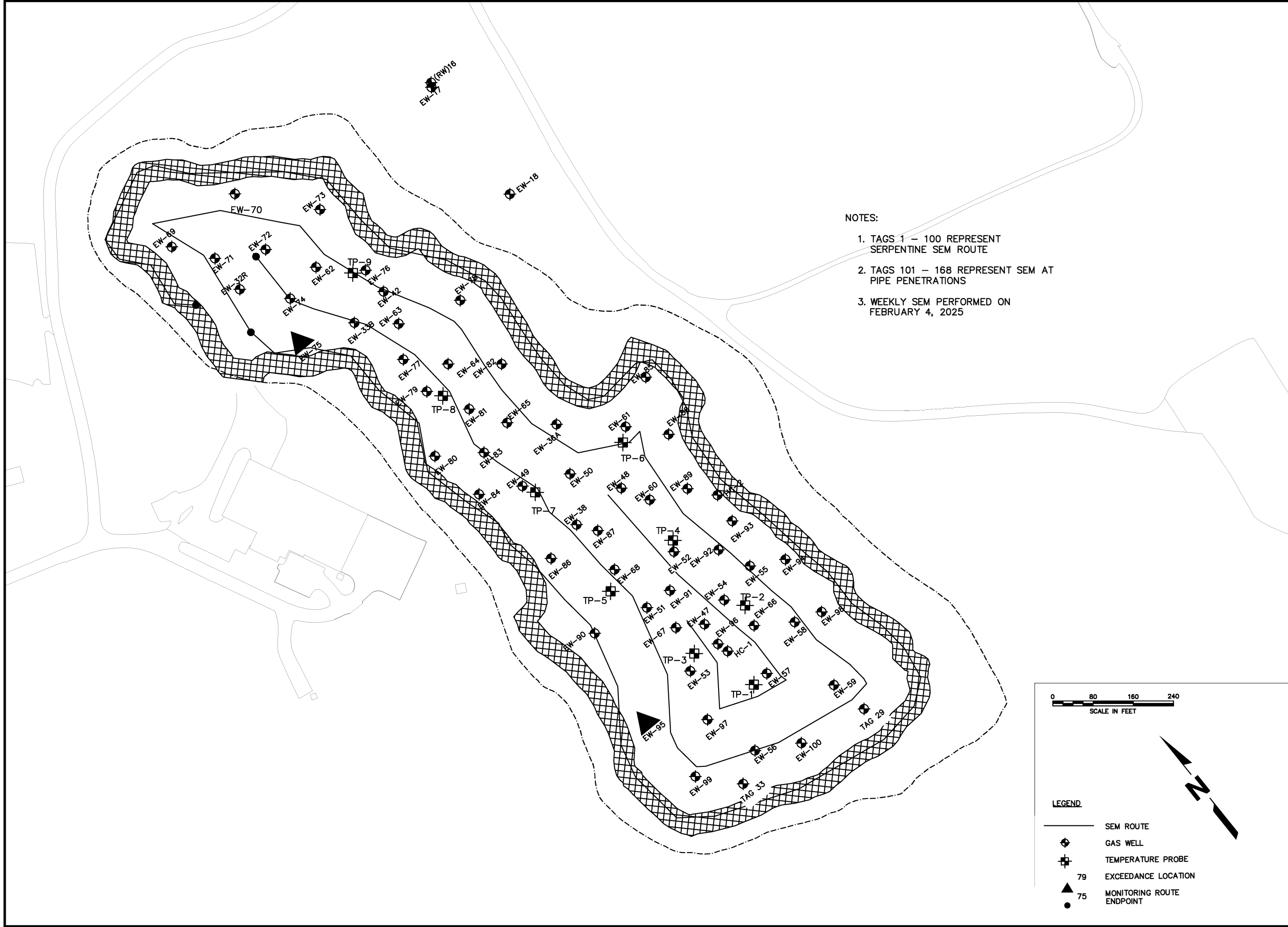
Points 1 through 100 represent serpentine SEM route.  
Points 101 through 168 represent SEM at Pipe Penetrations  
Weather Conditions: Sunny, 63°F Wind: 10 MPH S

Sampling Calibration: Methane - 500 ppm, Zero Air - 0.0 ppm

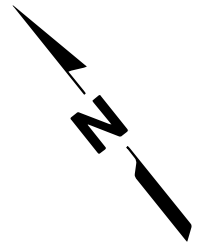
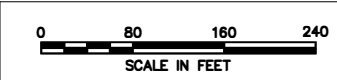
2/4/2025	10:54	ZERO	0.2	PPM
2/4/2025	10:56	SPAN	499.0	PPM

Background Reading:

2/4/2025	10:57	Upwind	2.1	PPM
2/4/2025	11:01	Downwind	1.7	PPM



- NOTES:
1. TAGS 1 – 100 REPRESENT SERPENTINE SEM ROUTE
  2. TAGS 101 – 168 REPRESENT SEM AT PIPE PENETRATIONS
  3. WEEKLY SEM PERFORMED ON FEBRUARY 4, 2025



- LEGEND
- SEM ROUTE
  - ⊕ GAS WELL
  - ⊕ TEMPERATURE PROBE
  - 79 EXCEEDANCE LOCATION
  - ▲ 75 MONITORING ROUTE ENDPOINT
  - 75 MONITORING ROUTE ENDPOINT

SHEET TITLE <b>SEM ROUTE WITH BUFFER AREA</b>	NO.	DATE
PROJECT TITLE <b>SURFACE EMISSIONS MONITORING SOLID WASTE PERMIT #588</b>	REVISION	
CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VA 24201		
<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 16921 MIDLOTHIAN TPK., MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433 PROJ. NO. 02218208.04 DATE: 2/4/25	C/A RW: BT APP: BT DWG: BT CHK: BT	
FILE: 02218208.04		
DATE: 2/4/25		
SCALE: AS SHOWN		
DRAWING NO. <b>1</b>	of 1	

## Appendix B

### In-Waste Temperatures on Select Days in February

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Figure B - 1 Average Temperatures Recorded by TP-1 on February 5, 2025

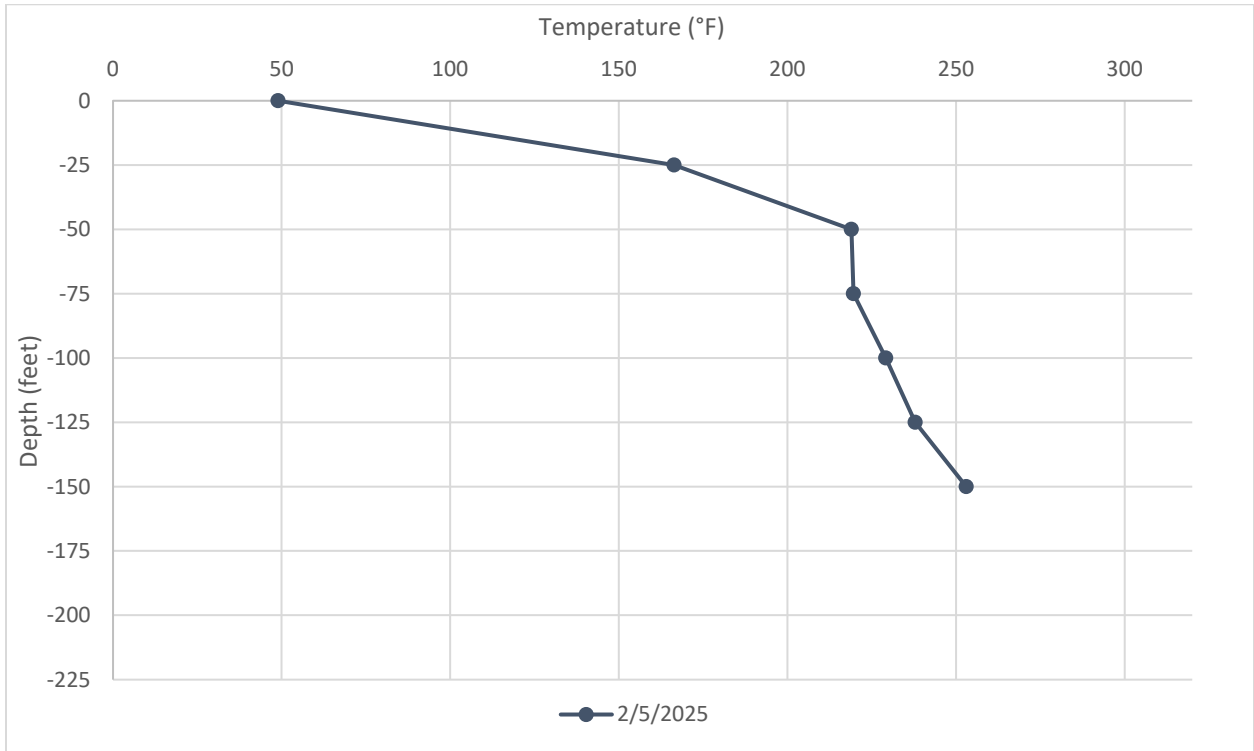


Figure B - 2 Average Temperatures Recorded by TP-1 on February 12, 2025

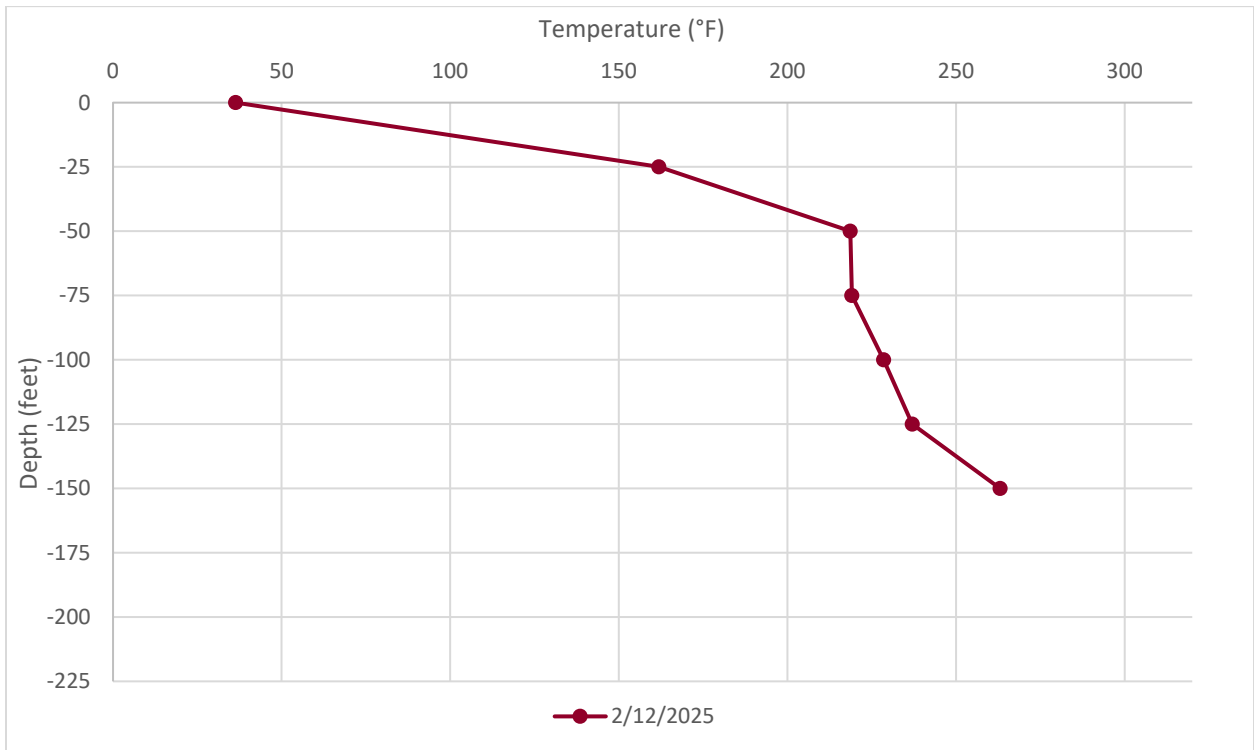


Figure B - 3 Average Temperatures Recorded by TP-1 on February 26, 2025

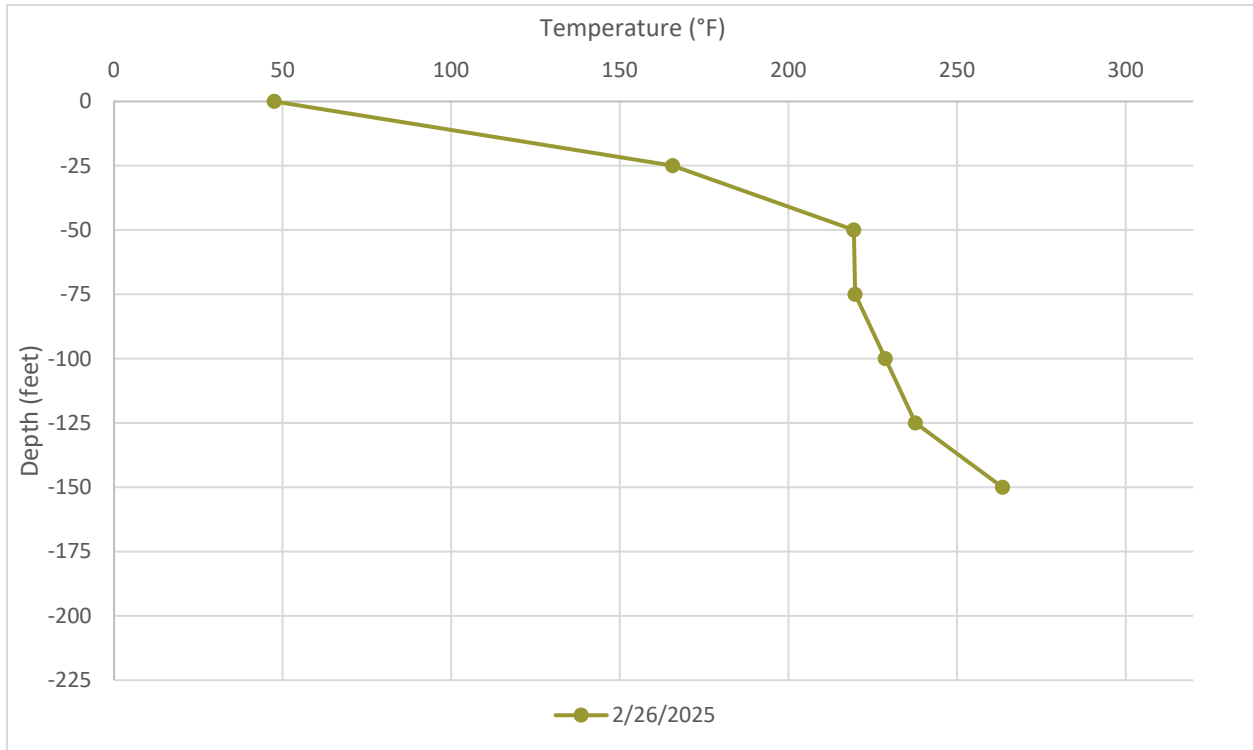


Figure B - 4 Average Temperatures Recorded by TP-3 on February 5, 2025

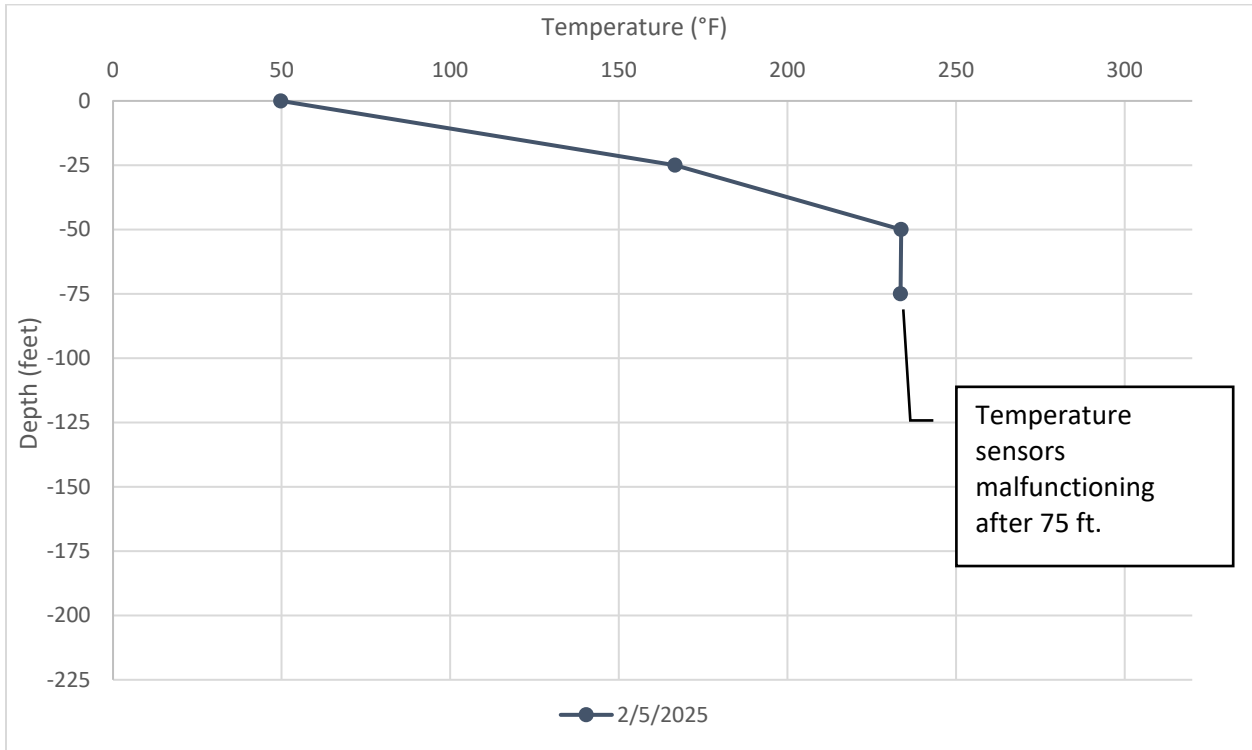


Figure B - 5 Average Temperatures Recorded by TP-3 on February 12, 2025

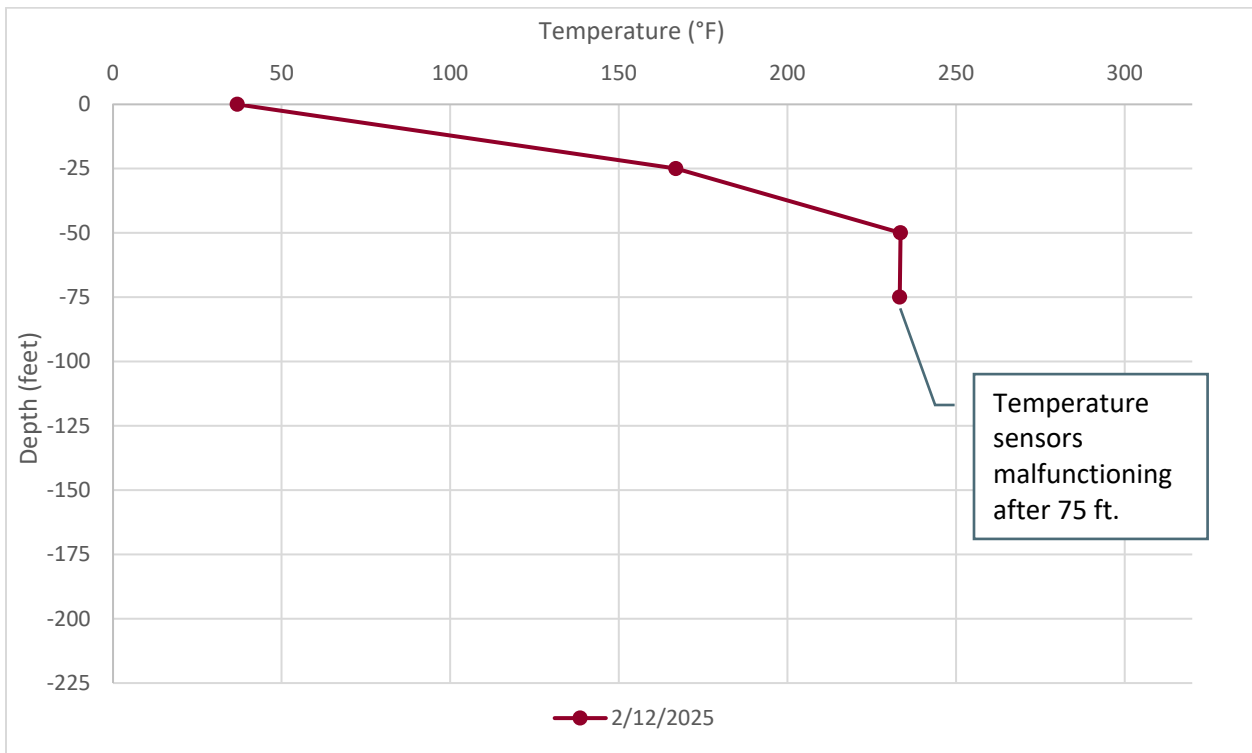


Figure B - 6 Average Temperatures Recorded by TP-3 on February 19, 2025

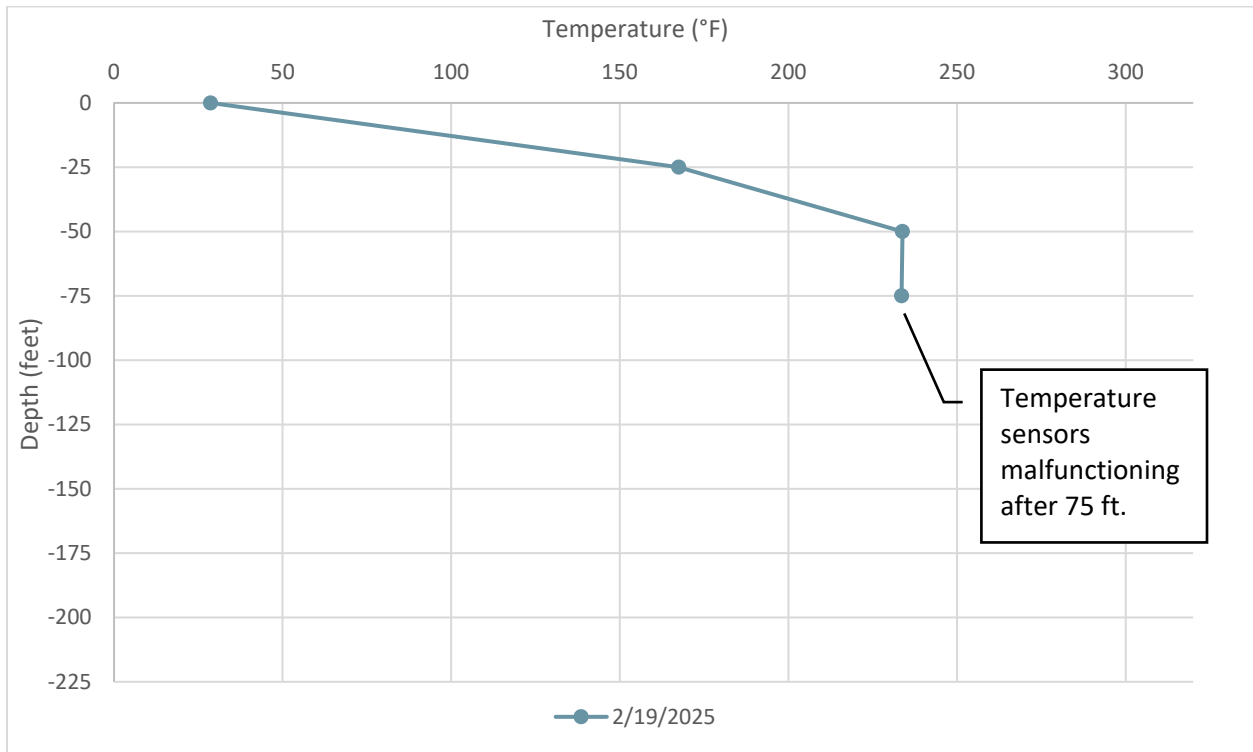


Figure B - 7 Average Temperatures Recorded by TP-3 on February 26, 2025

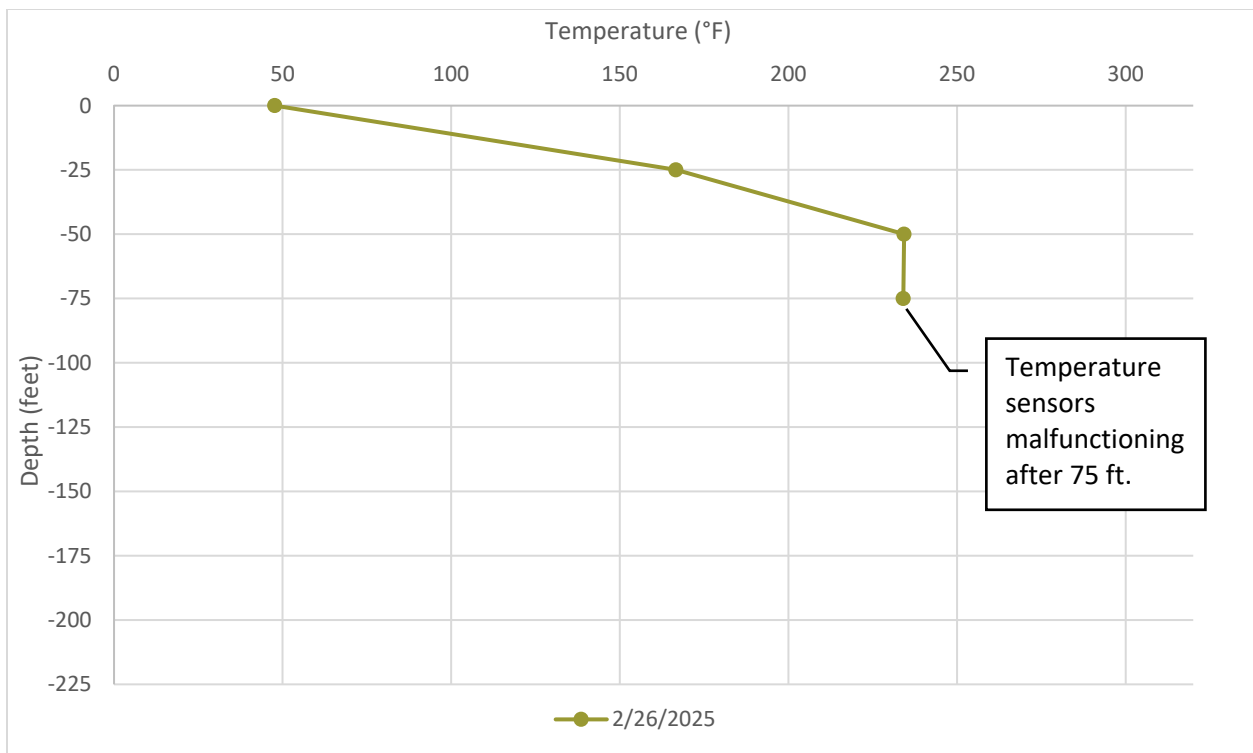


Figure B - 8 Average Temperatures Recorded by TP-5 on February 5, 2025

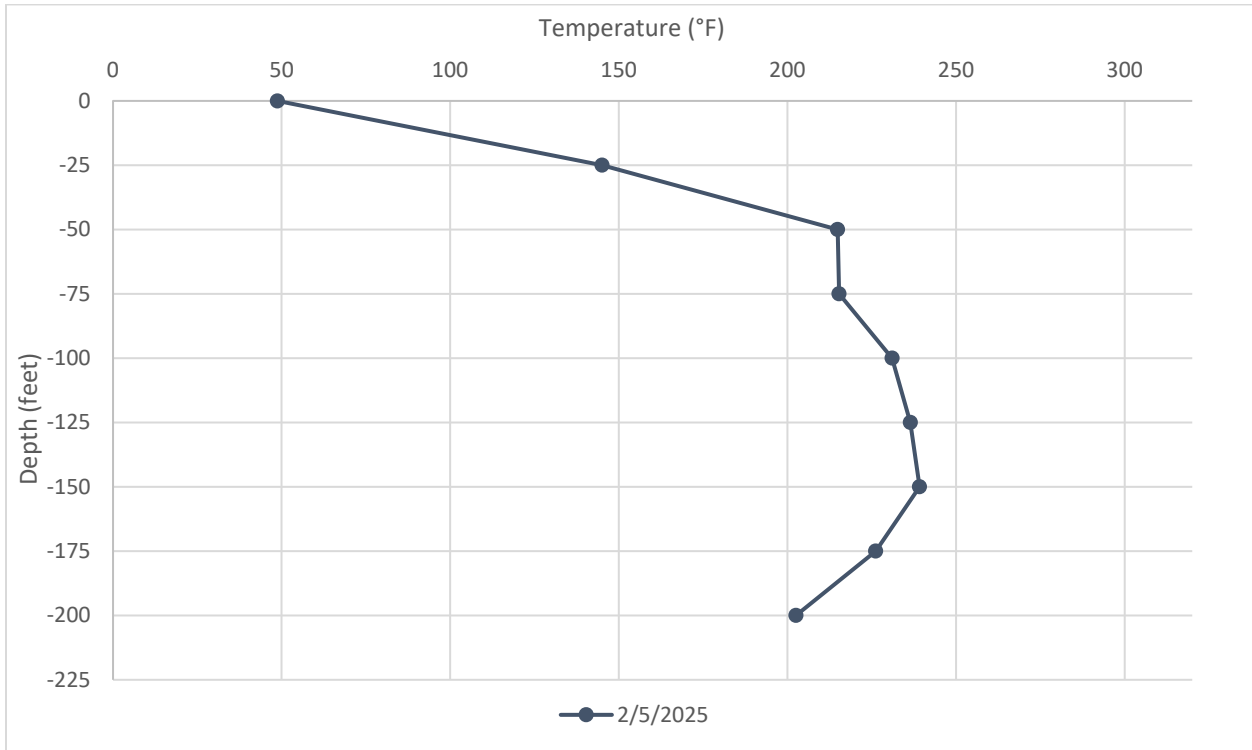


Figure B - 9 Average Temperatures Recorded by TP-5 on February 12, 2025

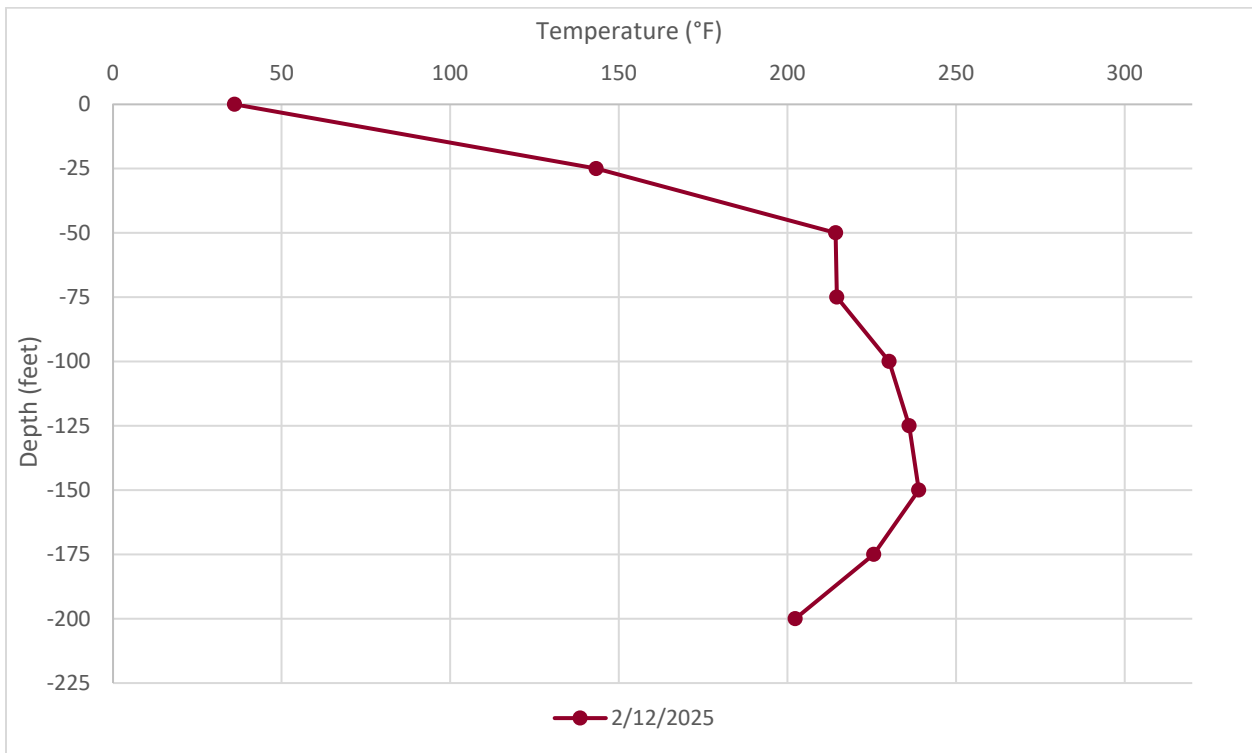


Figure B - 10 Average Temperatures Recorded by TP-5 on February 19, 2025

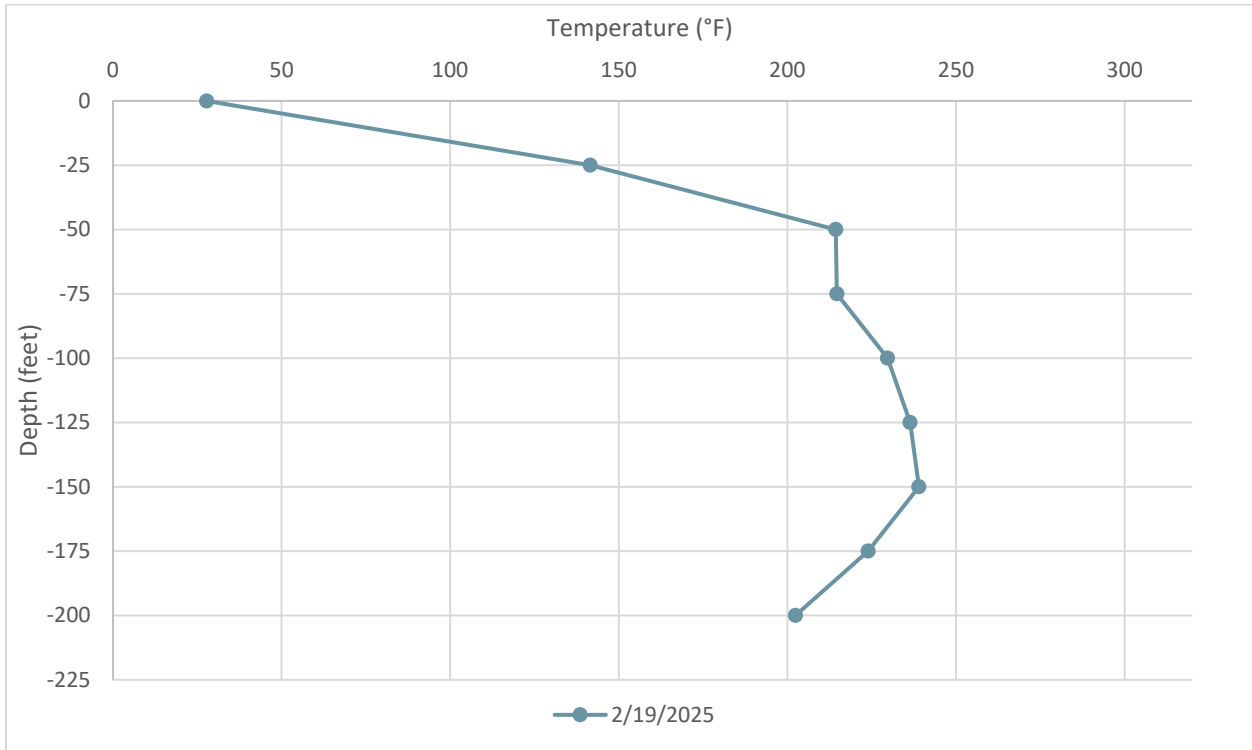


Figure B - 11 Average Temperatures Recorded by TP-5 on February 26, 2025

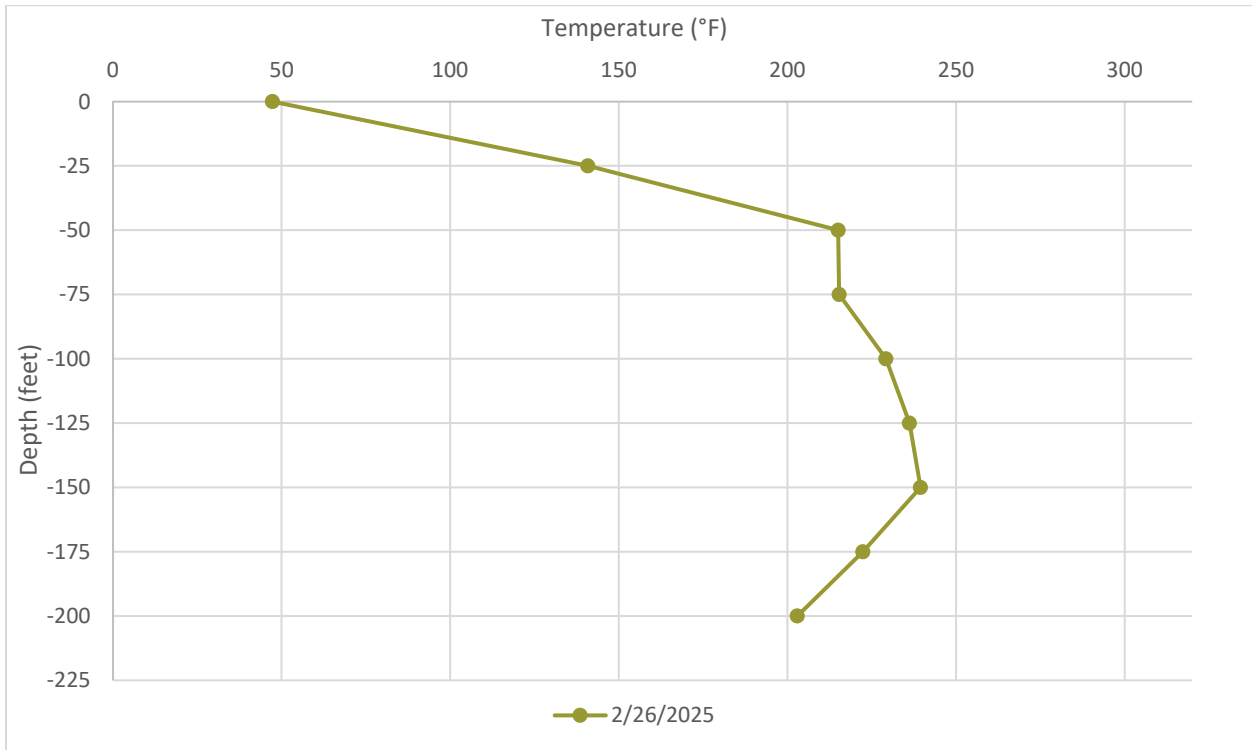


Figure B - 12 Average Temperatures Recorded by TP-6 on February 5, 2025

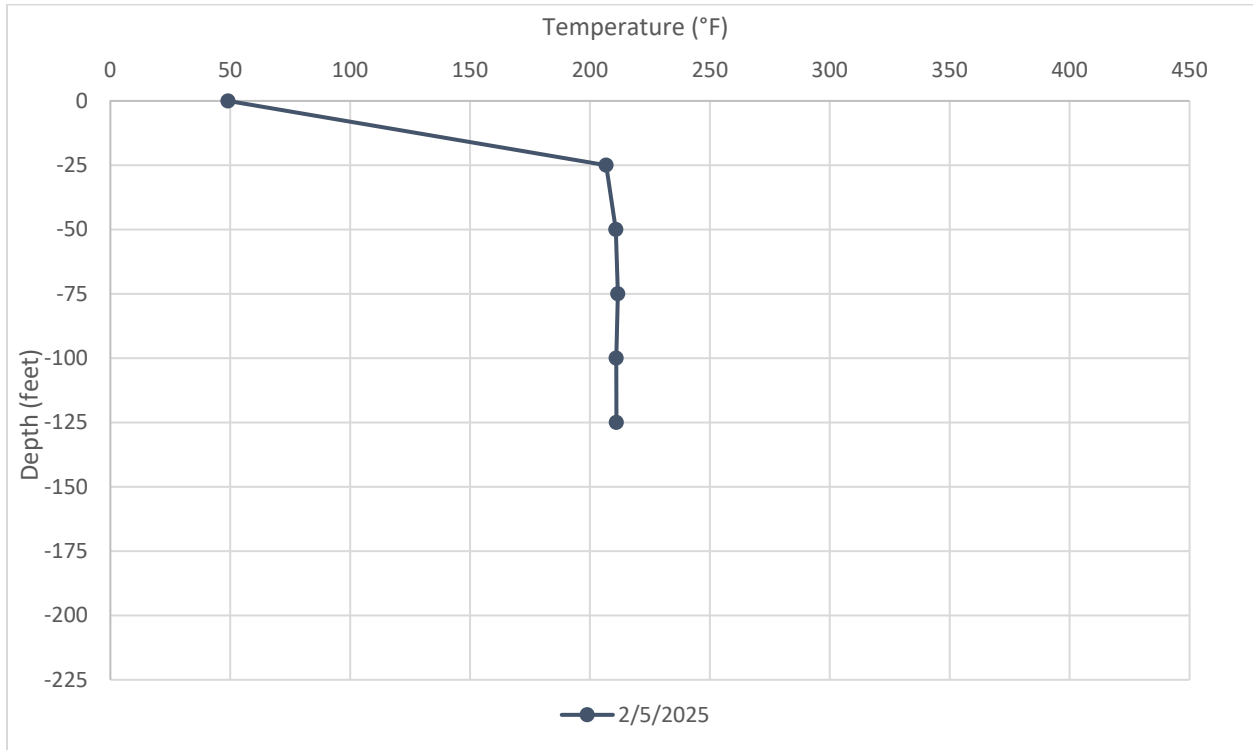


Figure B - 13 Average Temperatures Recorded by TP-6 on February 12, 2025

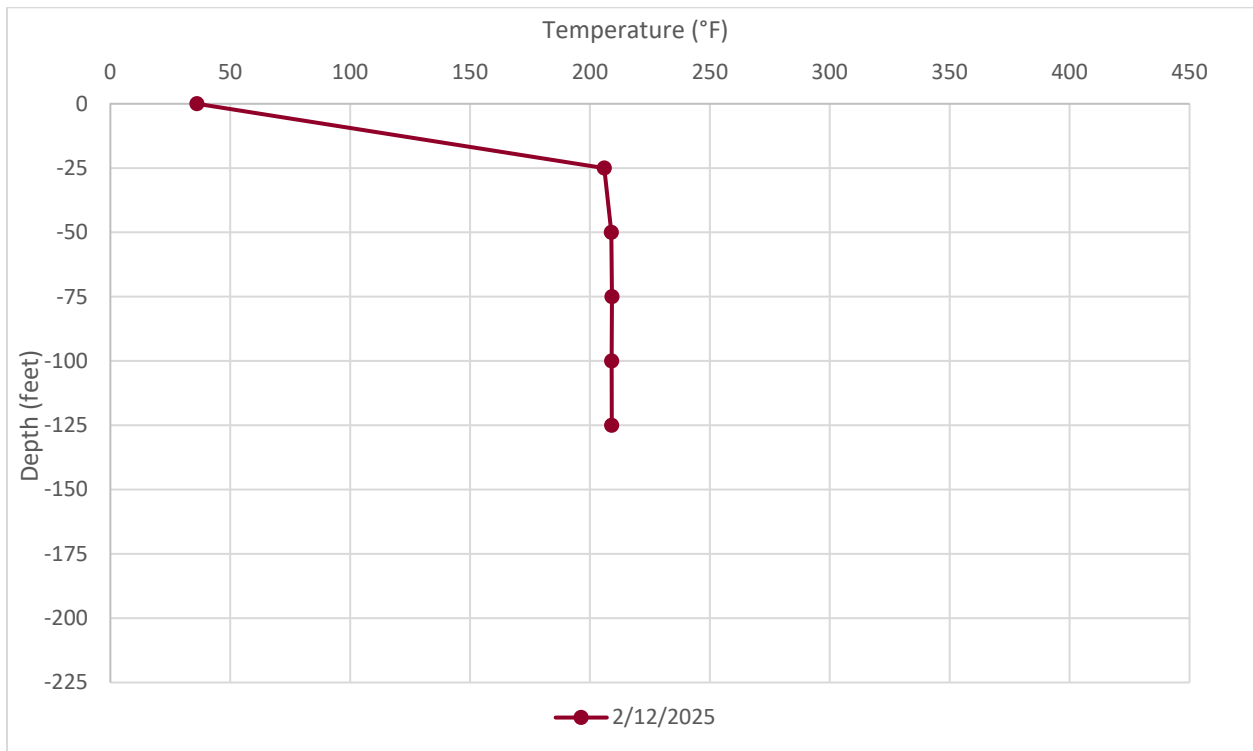


Figure B - 14 Average Temperatures Recorded by TP-6 on February 19, 2025

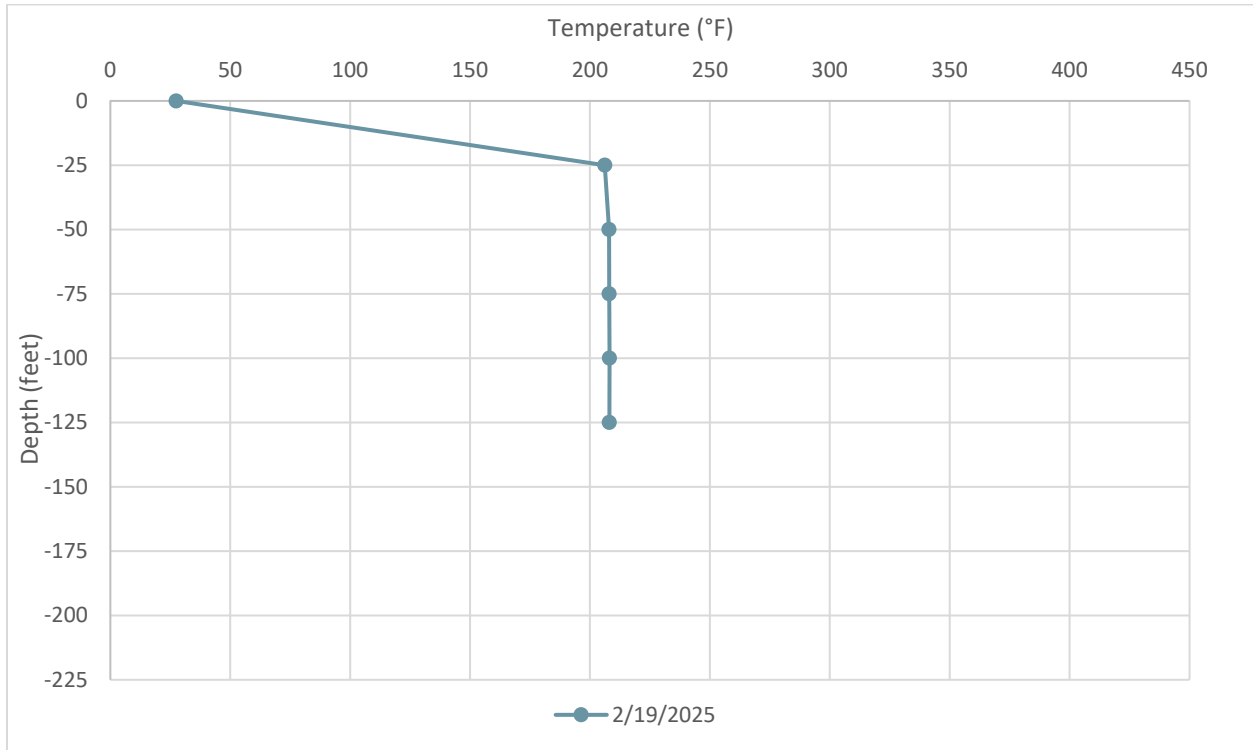


Figure B - 15 Average Temperatures Recorded by TP-6 on February 26, 2025

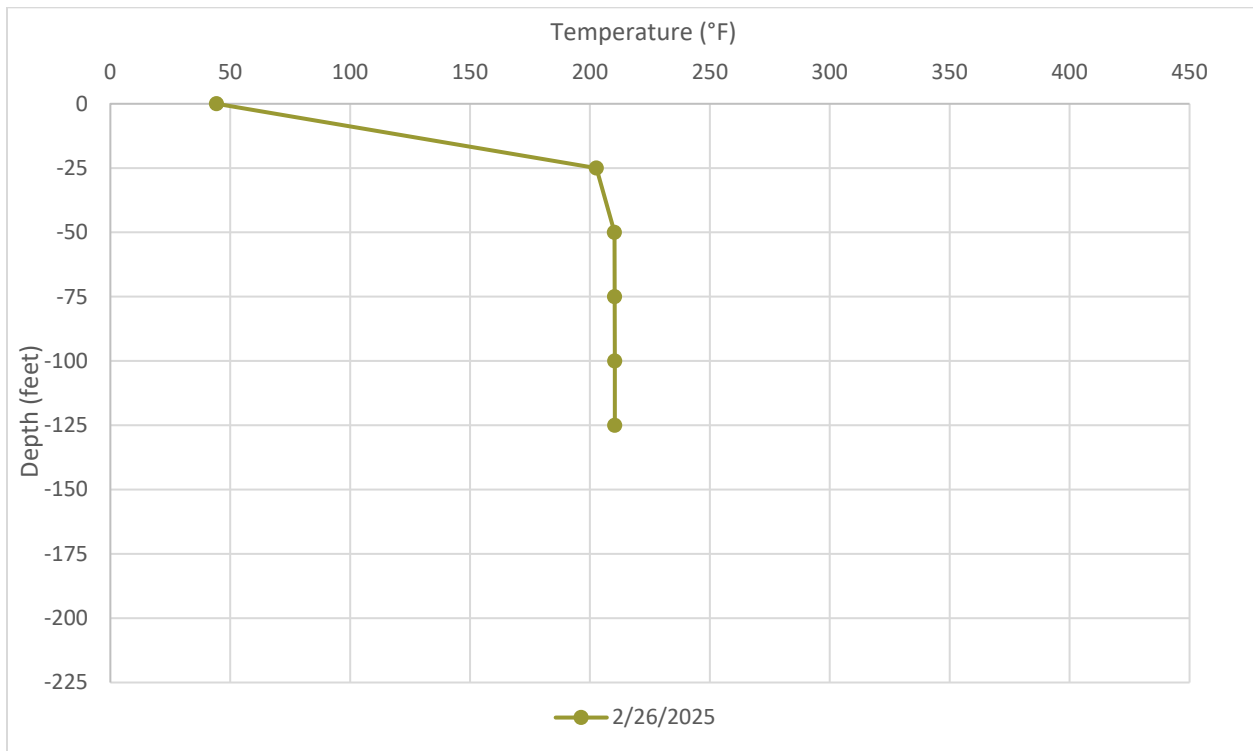




Figure B - 16 Average Temperatures Recorded by TP-7 on February 5, 2025

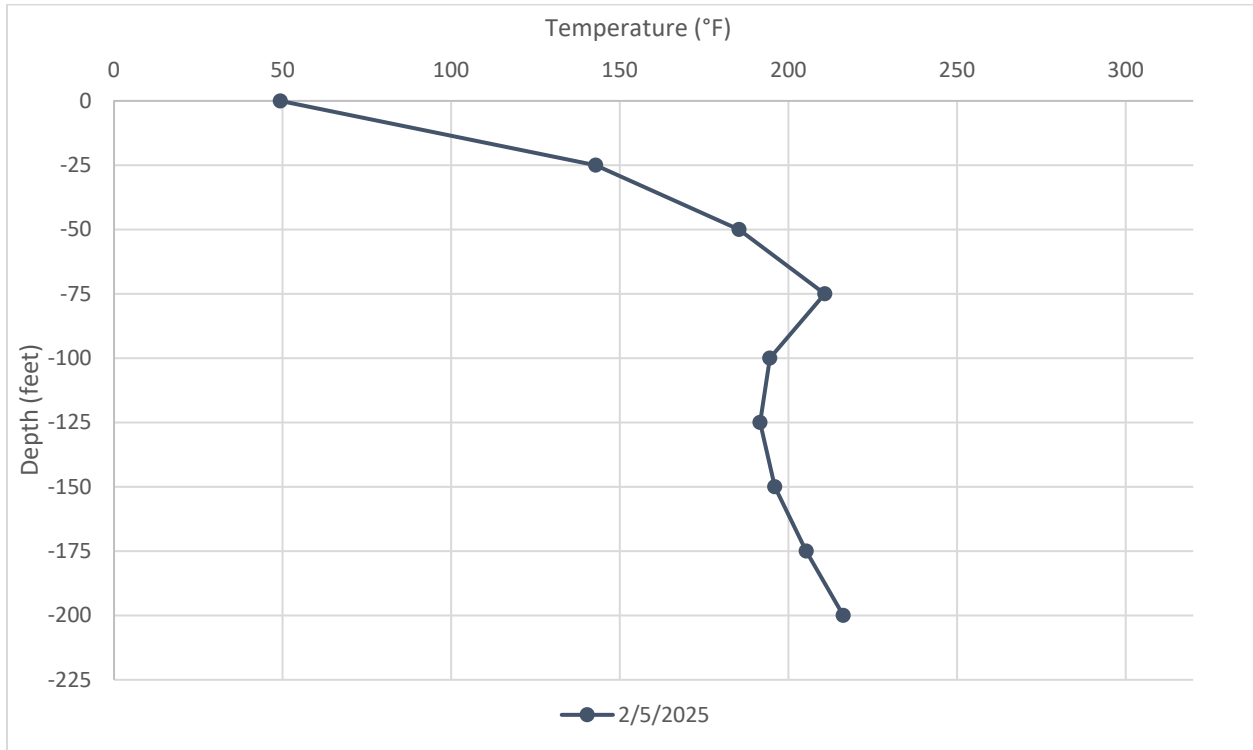


Figure B - 17 Average Temperatures Recorded by TP-7 on February 12, 2025

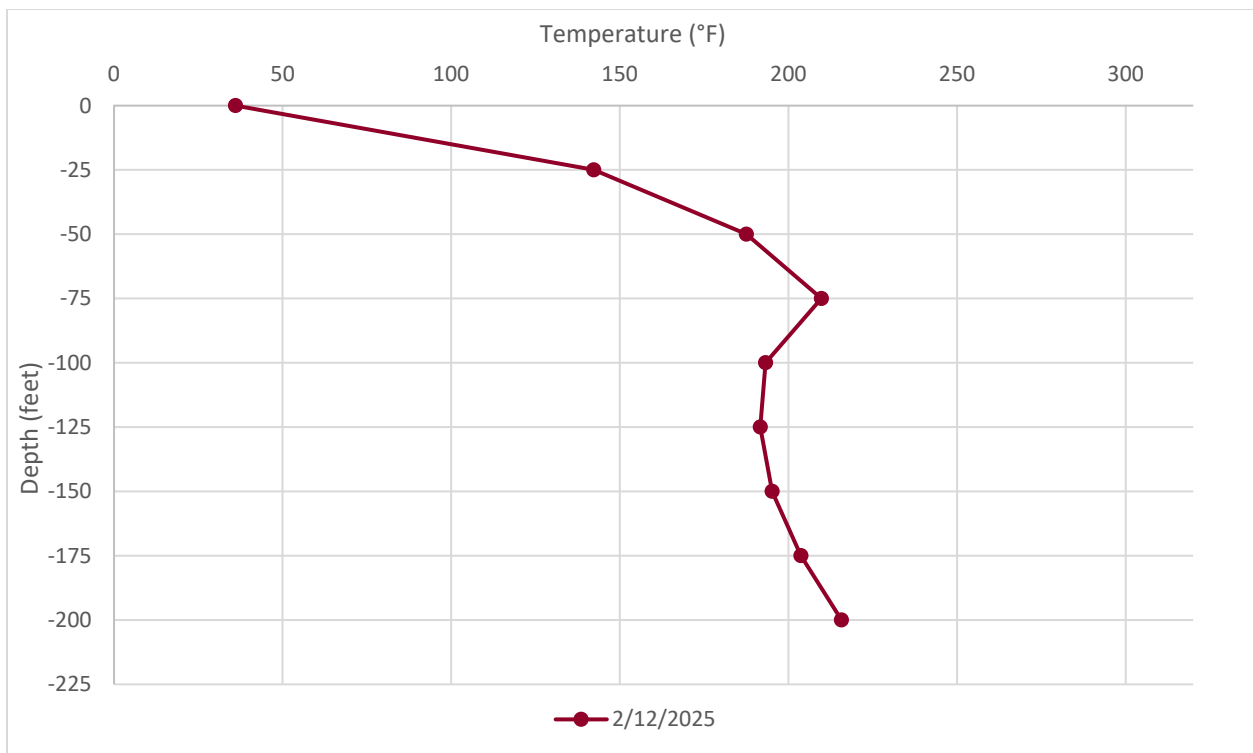


Figure B - 18 Average Temperatures Recorded by TP-7 on February 19, 2025

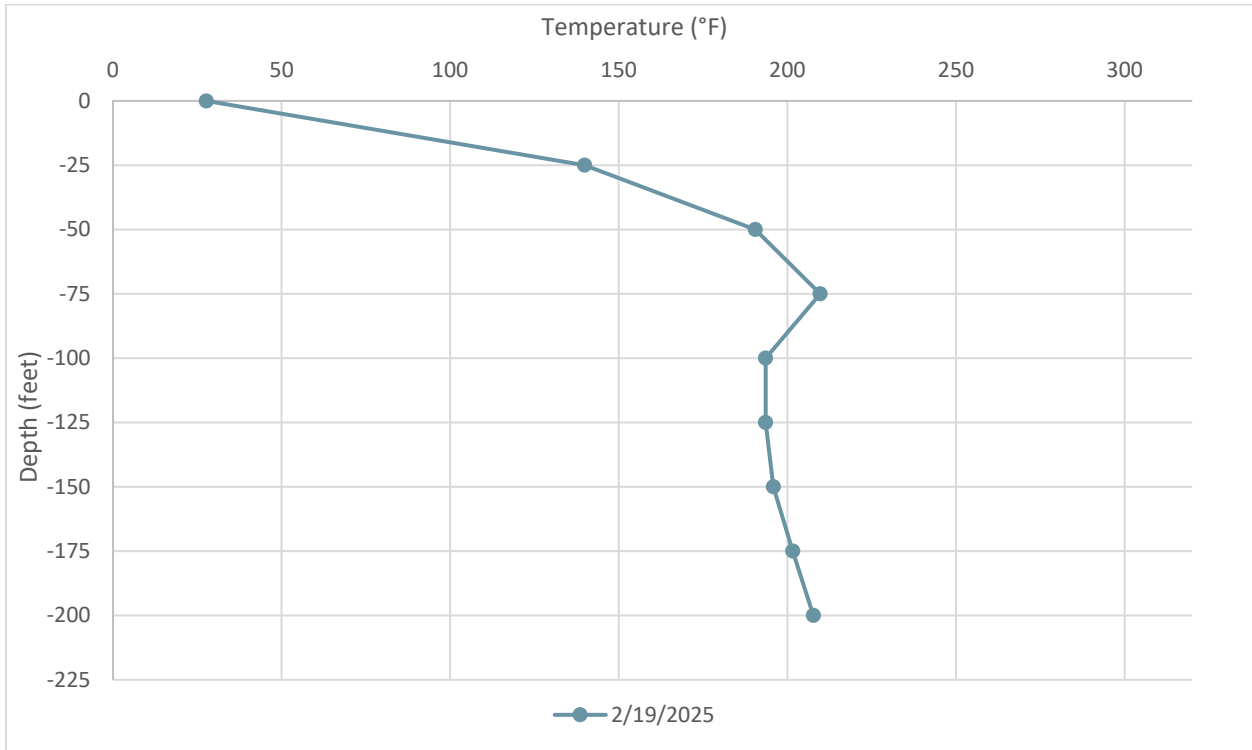


Figure B - 19 Average Temperatures Recorded by TP-7 on February 26, 2025

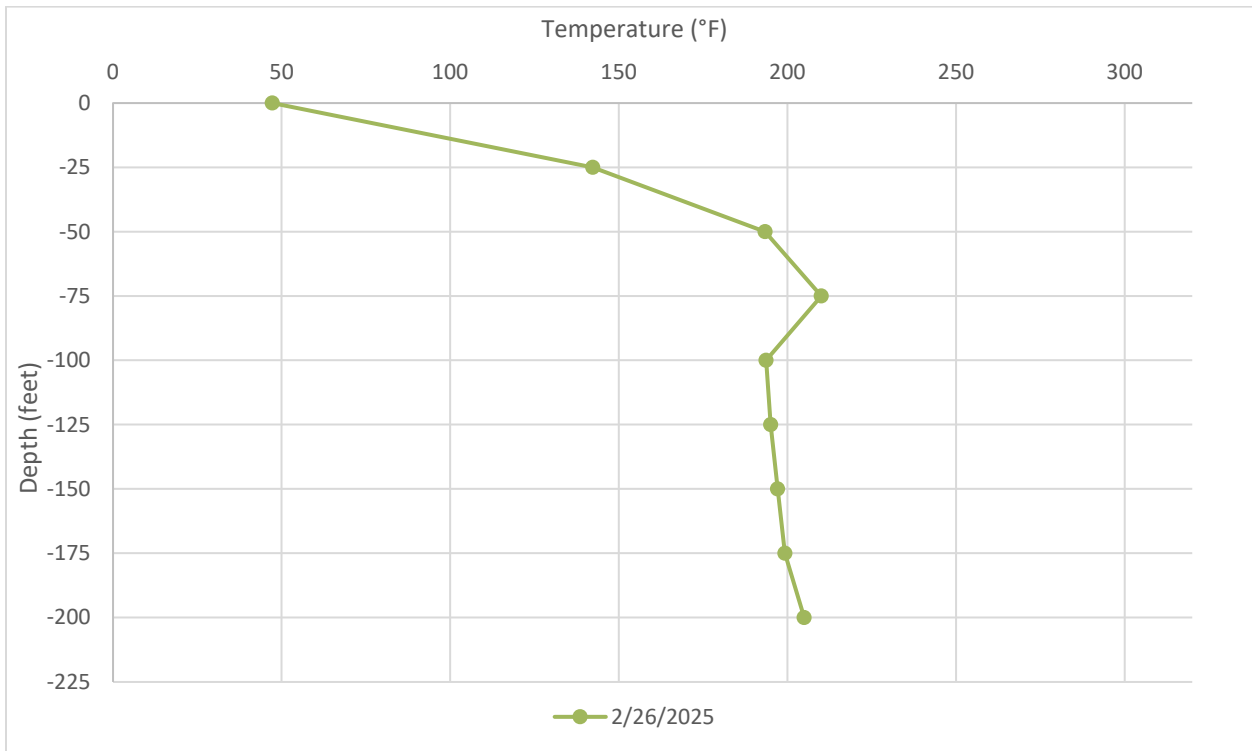


Figure B - 20 Average Temperatures Recorded by TP-8 on February 5, 2025

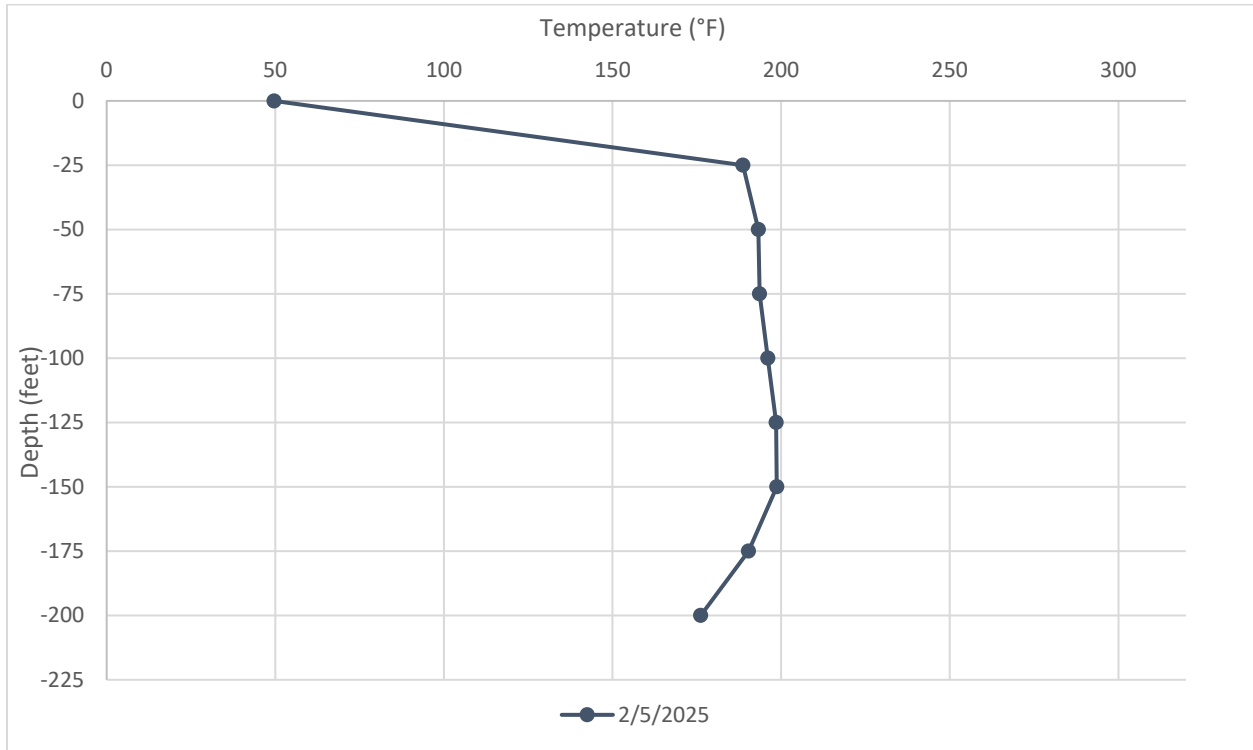


Figure B - 21 Average Temperatures Recorded by TP-8 on February 12, 2025

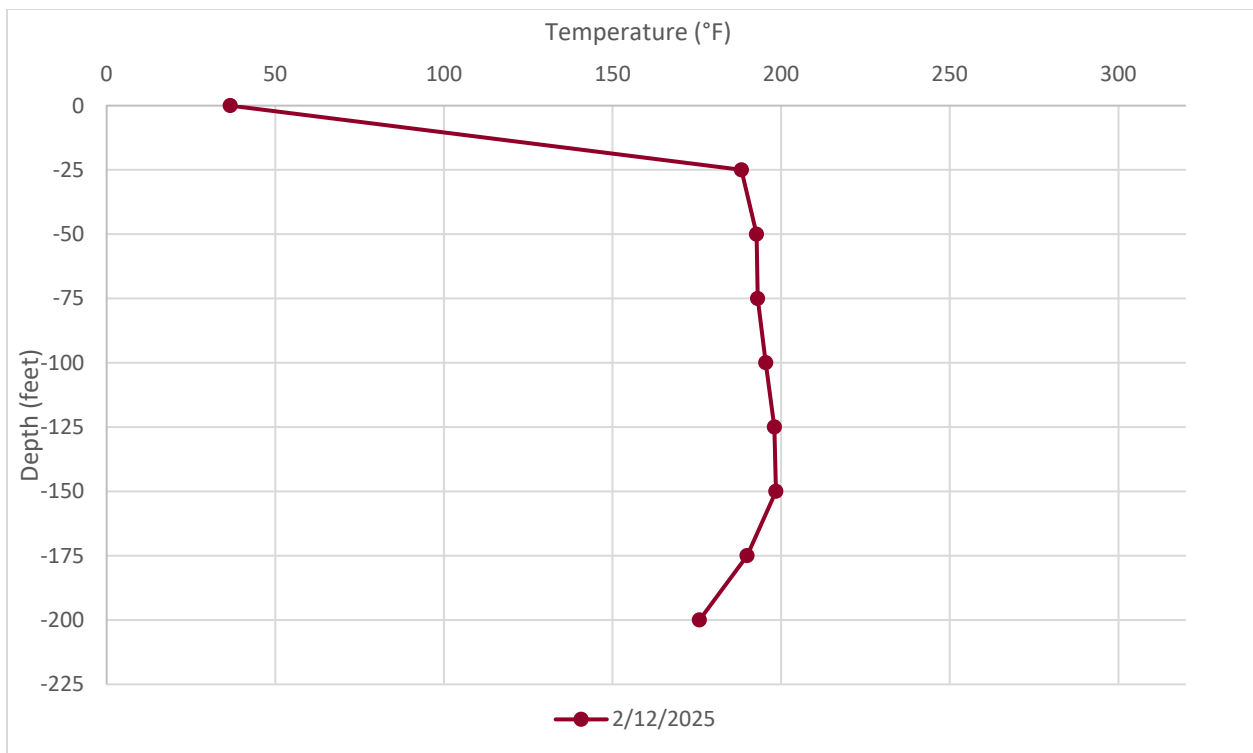


Figure B - 22 Average Temperatures Recorded by TP-8 on February 19, 2025

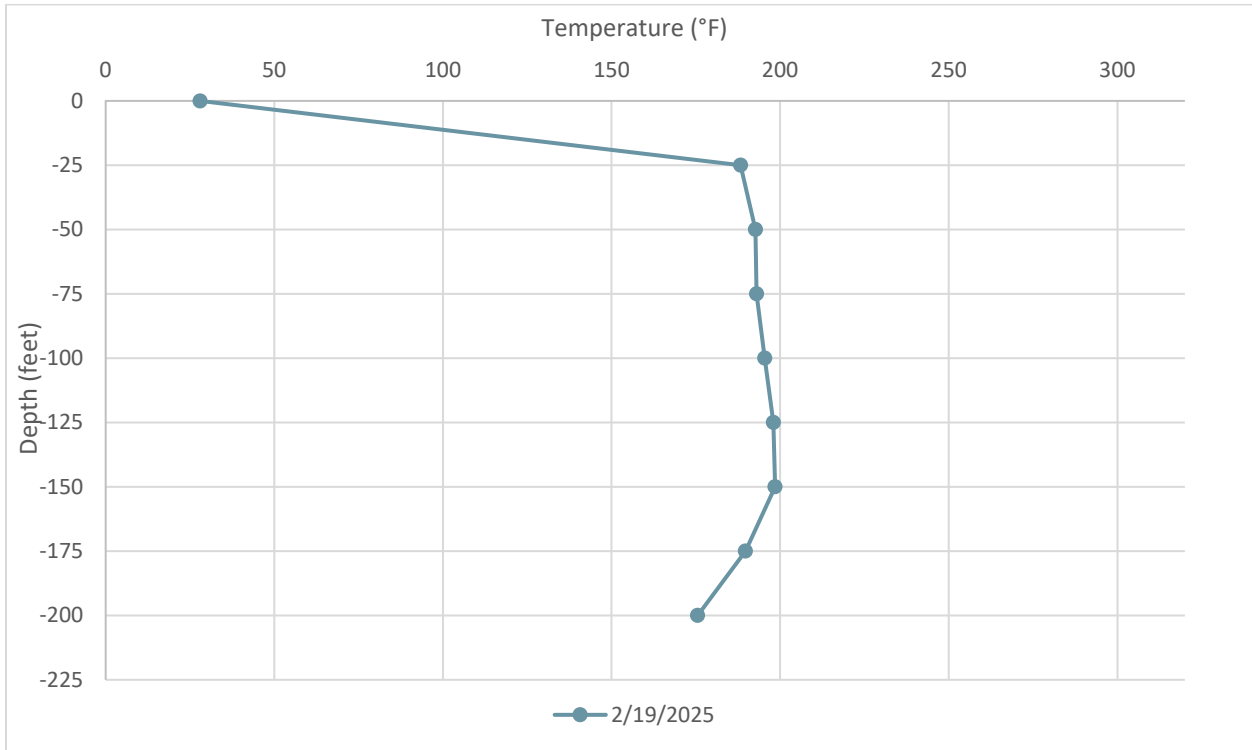


Figure B - 23 Average Temperatures Recorded by TP-8 on February 26, 2025

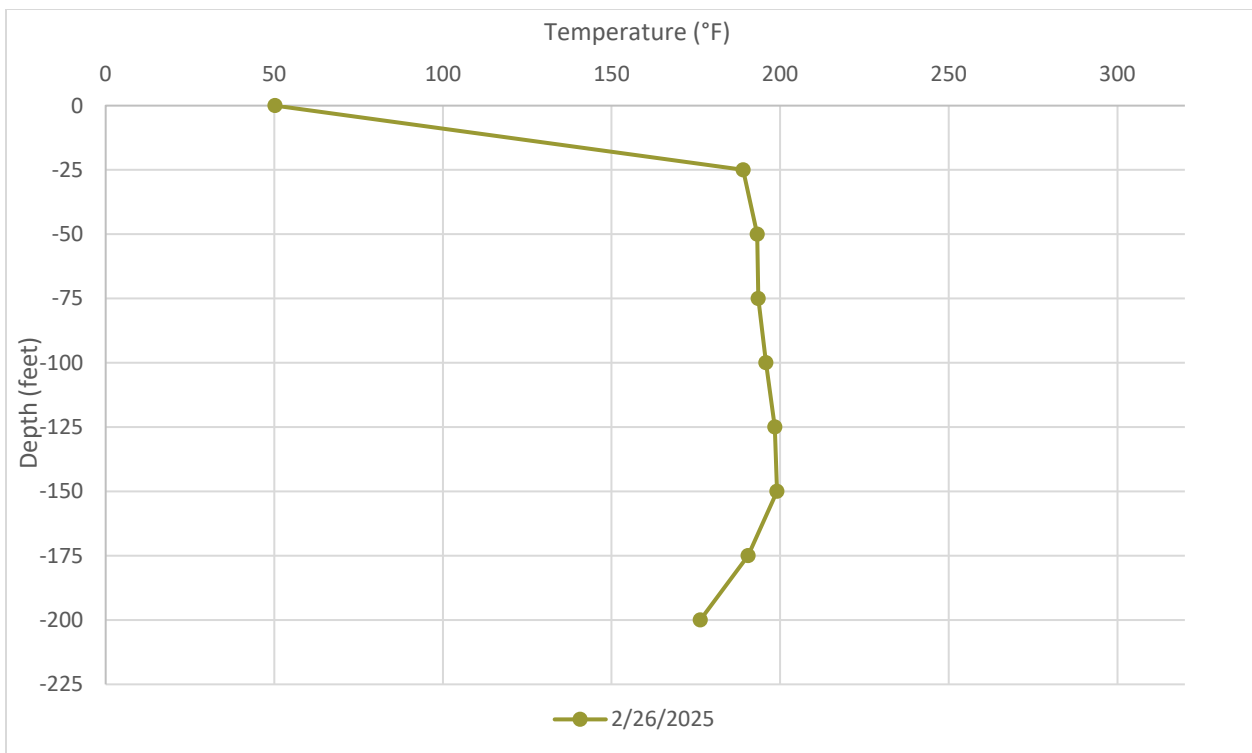


Figure B - 24 Average Temperatures Recorded by TP-9 on February 5, 2025

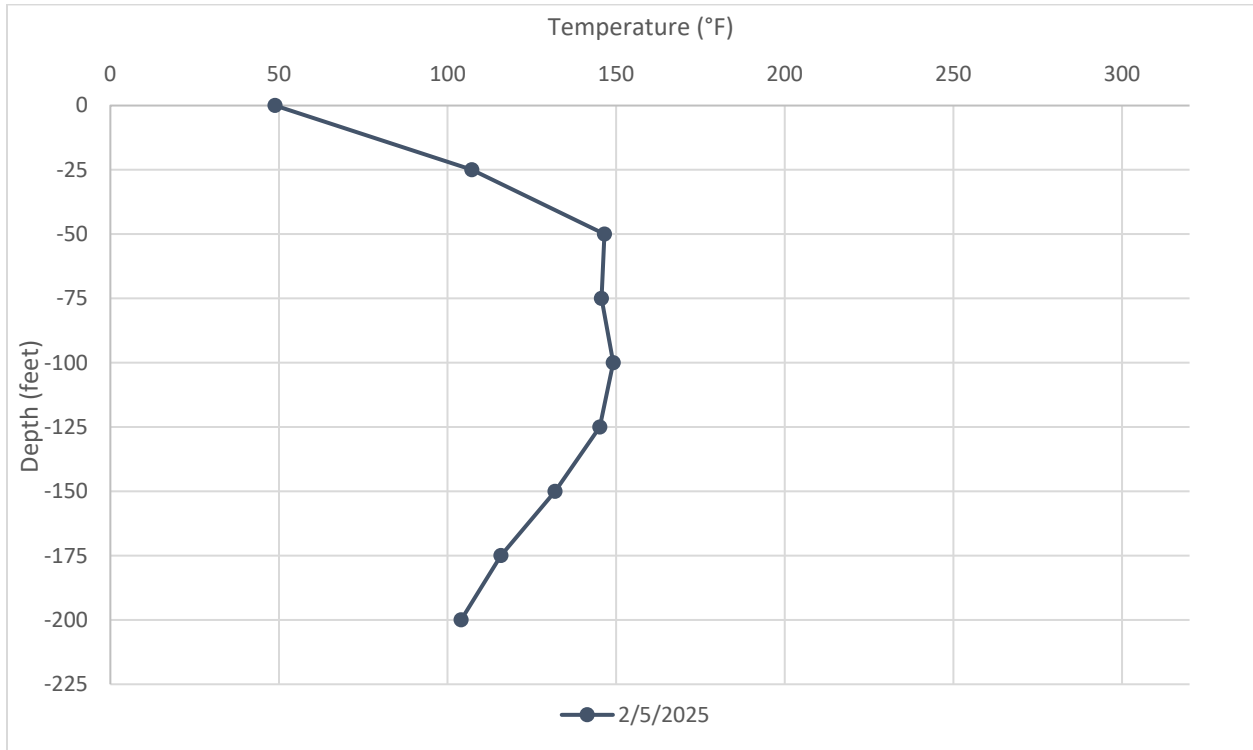


Figure B - 25 Average Temperatures Recorded by TP-9 on February 12, 2025

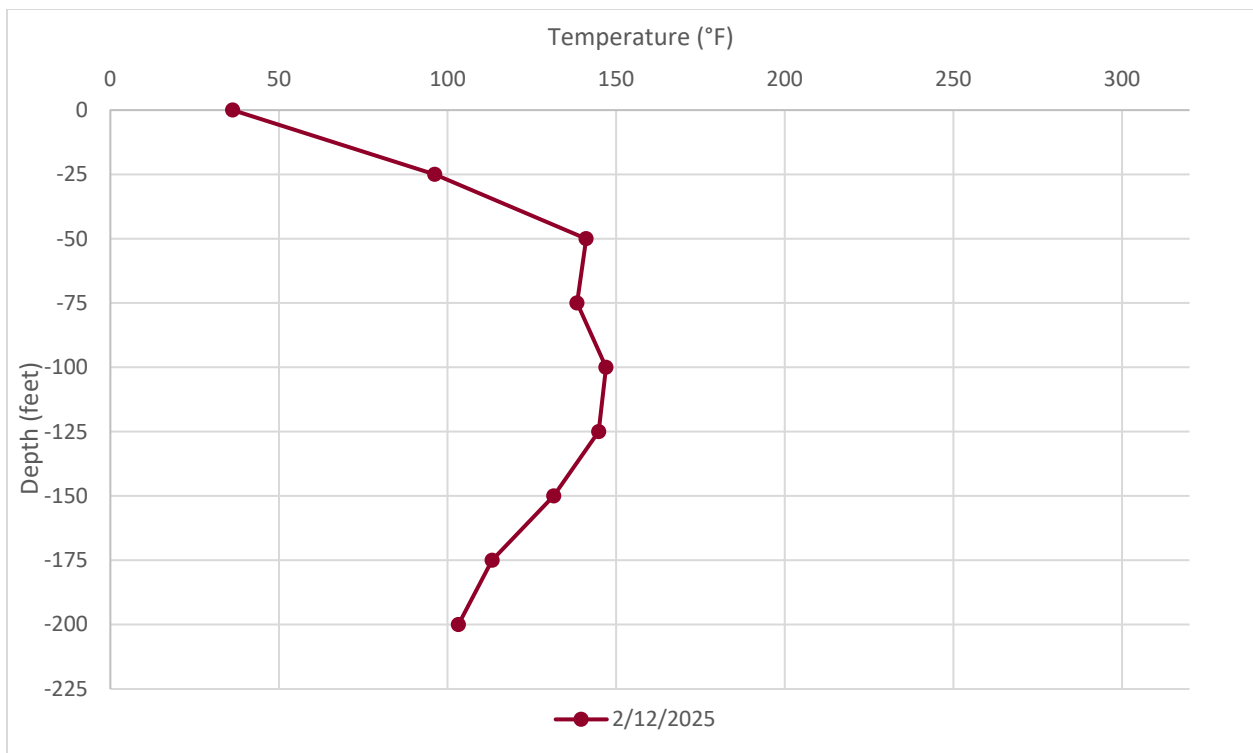


Figure B - 26 Average Temperatures Recorded by TP-9 on February 19, 2025

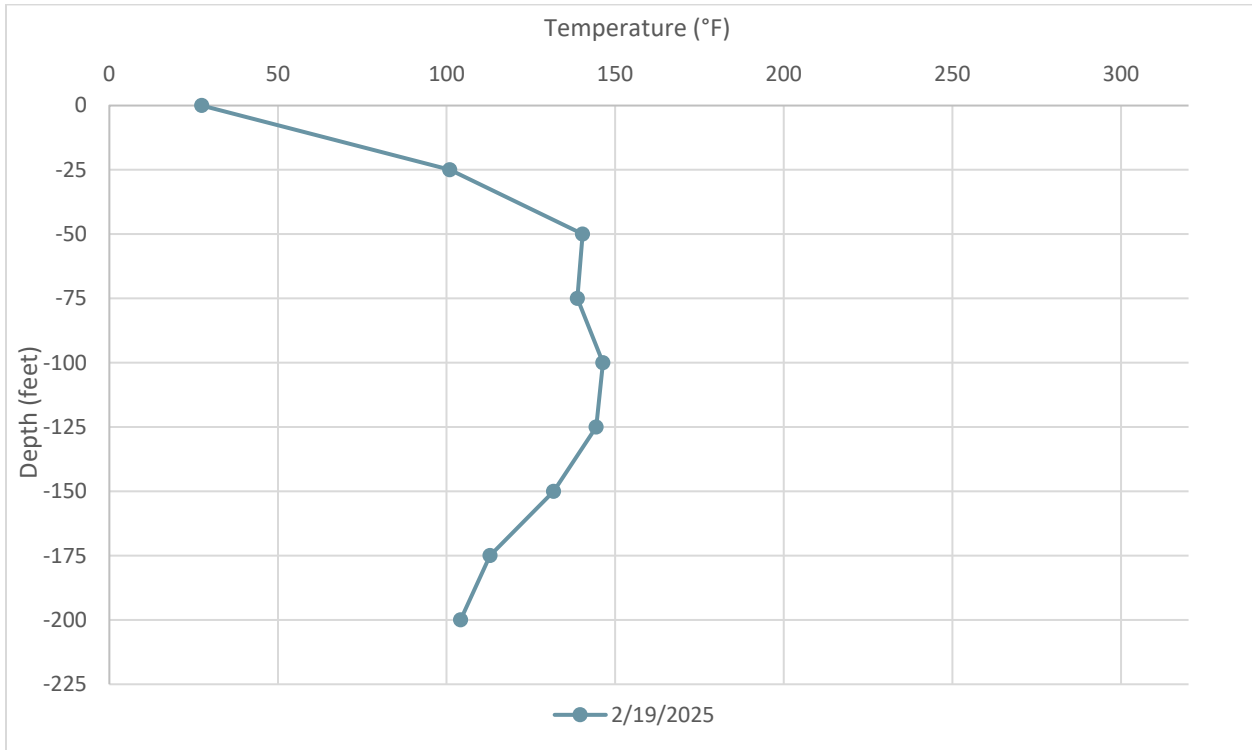
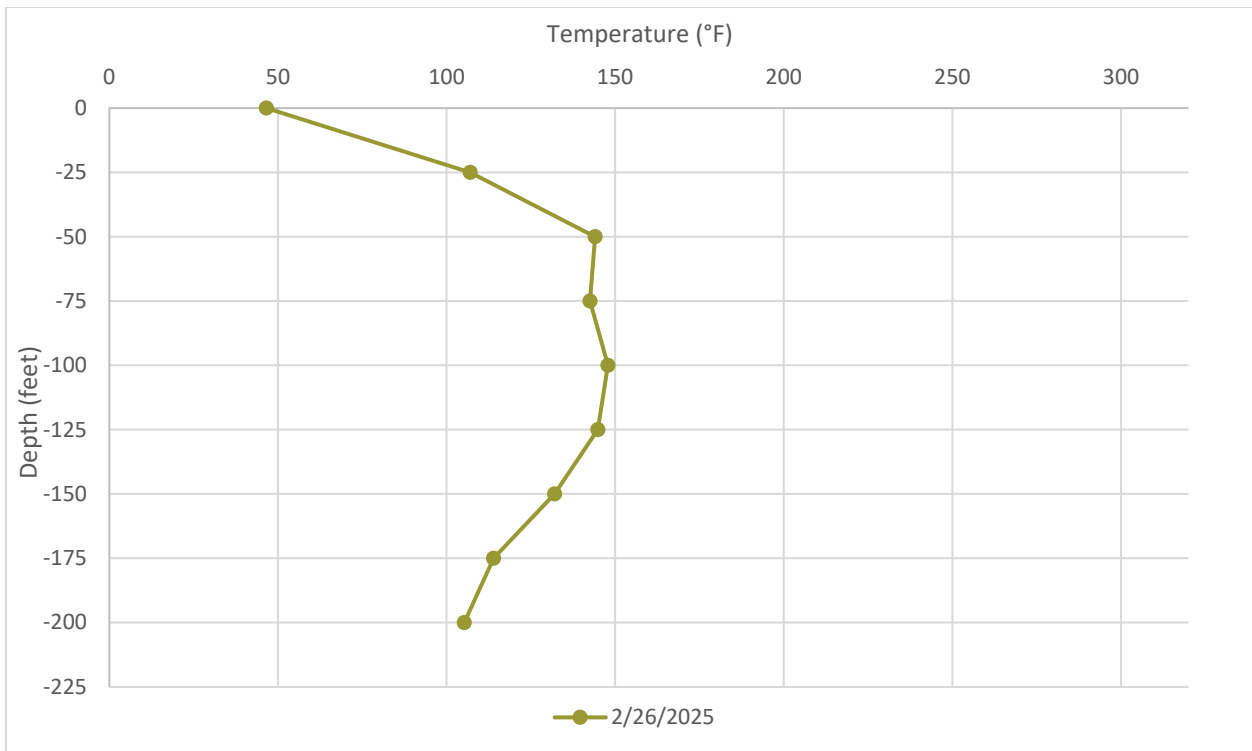



Figure B - 27 Average Temperatures Recorded by TP-9 on February 26, 2025





# Appendix C

## Daily Wellhead Temperature Averages

# Solid Waste Permit 588 Daily Wellhead Temperature Averages

*The data provided in this report represent initial readings provided by field instrumentation without Validation, analysis, quality assurance review, or context based on operating conditions. This report is subject to revision following quality assurance review and an analysis of operating conditions. SCS will continue to provide a supplemental report with additional information and further analysis on a monthly basis at a minimum.*

**SCS ENGINEERS**

07222143.00 | February 1, 2025

274 Granite Run Drive  
Lancaster, PA 17601  
717-550-6330



**Solid Waste Permit 588 Daily Wellhead Temperature  
Averages for Feb 1, 2025  
Bristol, Virginia**

<b>Well ID</b>	<b>Average (°F)</b>	<b>Minimum (°F)</b>	<b>Maximum (°F)</b>
Well 32R	49.3	27.1	99.4
Well 33B	104.82	72	128.78
Well 36A	47.16	32.11	82.26
Well 38	85.28	69.37	97.68
Well 42	98.16	81.88	109.17
Well 47	43.75	29.85	79.35
Well 48	42.97	29.85	74.99
Well 49	147.9	131.1	156.2
Well 50	90.9	71.8	104.2
Well 51	43.8	25.9	80.9
Well 52	153.3	43.6	171.7
Well 53	73.3	26.5	119.3
Well 54	51.8	27.4	88.4
Well 55	94.9	48.6	151.1
Well 56	155.9	145.5	163.8
Well 57	65.5	32.1	106.5
Well 58	79.8	64.3	94.4
Well 59	95.1	37.0	127.2
Well 60	86.8	30.7	154.3
Well 61	116.6	26.3	170.69
Well 62	86.4	62.1	104.4
Well 63	92.9	74.9	110.5
Well 64	105.9	92.1	120.0
Well 65	132.5	87.3	149.8
Well 66	127.3	88.8	153.7
Well 67	140.3	115.4	155.0
Well 68	128.7	39.8	158.1
Well 69	65.49	45.61	90.98

**Solid Waste Permit 588 Daily Wellhead Temperature  
Averages for Feb 1, 2025  
Bristol, Virginia**

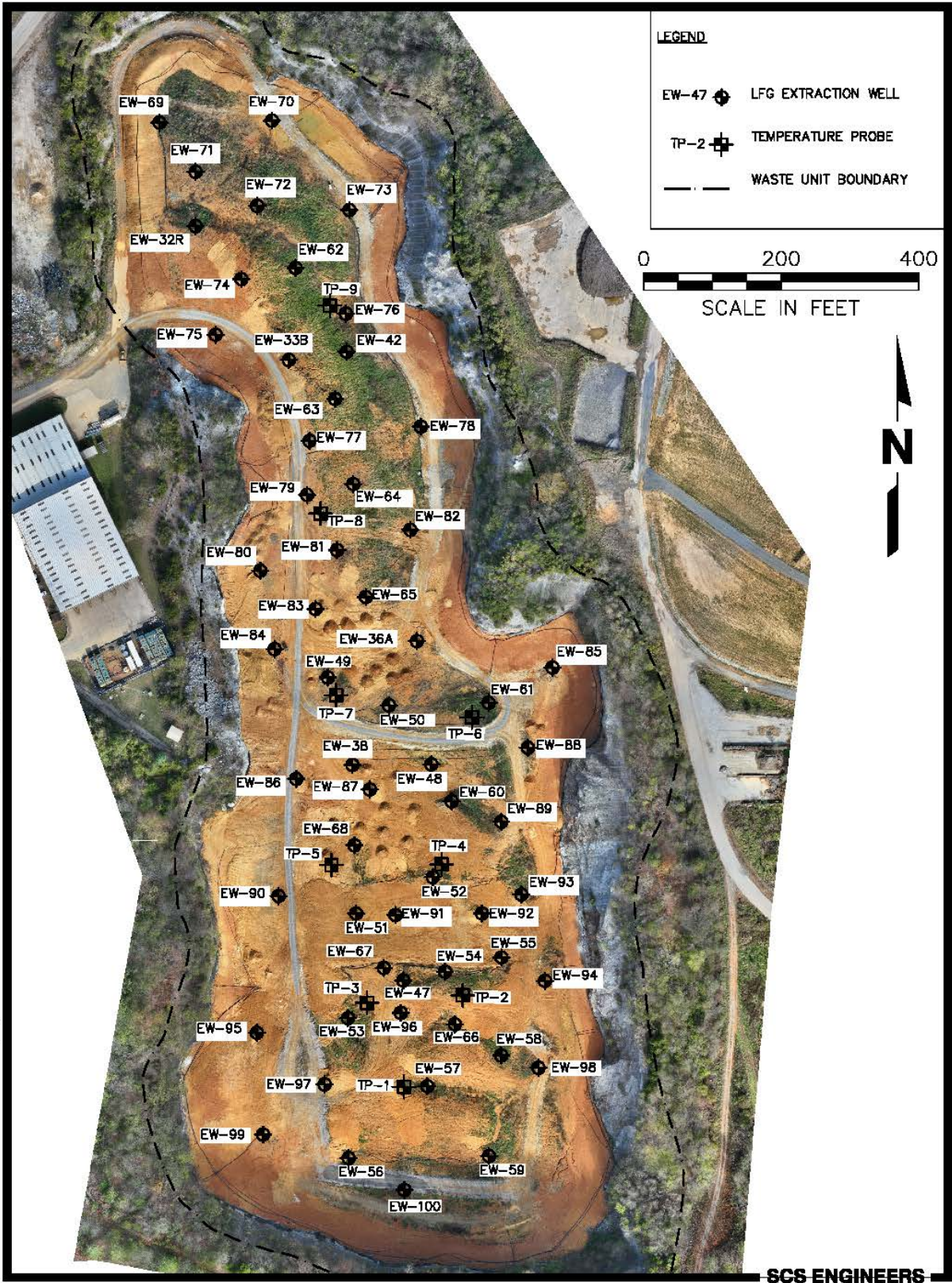
<b>Well ID</b>	<b>Average (°F)</b>	<b>Minimum (°F)</b>	<b>Maximum (°F)</b>
Well 70	44.3	29.8	73.9
Well 71	129.75	122.16	134.42
Well 72	127.41	112.05	135.14
Well 73	105.22	100.09	111.11
Well 74	117.85	39.87	128.41
Well 75	105.9	51.28	122.83
Well 76	127.14	101.01	129.18
Well 77	45.2	29.9	83.2
Well 78	100.8	83.0	113.0
Well 79	137.9	117.1	146.5
Well 80	44.6	29.8	79.8
Well 81	168.7	160.7	173.3
Well 82	168.6	156.5	174.1
Well 83	155.0	90.2	181.1
Well 84	182.7	165.4	186.7
Well 85	132.9	47.2	163.8
Well 86	148.5	140.9	151.9
Well 87	157.2	132.8	168.1
Well 88	161.9	157.6	165.1
Well 89	176.12	155.26	188.72
Well 90	138.9	133.2	145.1
Well 91	161.9	67.0	184.6
Well 92	142.1	76.2	181.9
Well 93	87.1	29.9	195.1
Well 94	76.9	34.1	148.4
Well 95	135.6	110.1	139.8
Well 96	131.6	111.1	152.5
Well 97	160.74	148.9	168.95

**Solid Waste Permit 588 Daily Wellhead Temperature**  
**Averages for Feb 1, 2025**  
Bristol, Virginia

<b>Well ID</b>	<b>Average (°F)</b>	<b>Minimum (°F)</b>	<b>Maximum (°F)</b>
Well 98	46.3	29.9	85.5
Well 99	142.87	138.53	146.1
Well 100	102.47	81.14	123.17

# Solid Waste Permit 588 Well Temperatures & Probe Layout

DRAWN BY: WRH DATE: 12/3/24 FILE NAME: 02218208.05\Drawings\Temperature Monitoring System | Well Temperature & Probes Layout



SWP #588 - WELL TEMPERATURES & PROBES LAYOUT

## Appendix D

### Solid Waste Permit 588 Daily Borehole Temperature Averages

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## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 1

Date	Depth from Surface					
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft
1-Feb	161.9	218.7	219.2	229.0	237.6	263.3
2-Feb	164.5	219.0	219.5	229.2	237.8	263.5
3-Feb	165.9	219.0	219.5	229.3	237.8	263.6
4-Feb	166.1	219.1	219.7	229.3	237.9	263.6
5-Feb	166.4	219.0	219.6	229.2	237.9	263.6
6-Feb	167.0	219.2	219.8	229.4	238.1	263.7
7-Feb	165.4	219.0	219.6	229.1	237.8	263.4
8-Feb	166.4	219.2	219.8	229.3	238.0	263.7
9-Feb	166.5	219.2	219.7	229.2	237.8	263.6
10-Feb	166.0	218.7	219.2	228.7	237.3	263.1
11-Feb	165.5	218.6	219.1	228.5	237.0	263.0
12-Feb	162.0	218.6	219.1	228.5	237.0	263.1
13-Feb	159.6	219.0	219.4	228.8	237.3	263.4
14-Feb	162.8	218.7	219.2	228.5	236.9	263.1
15-Feb	164.4	218.7	219.2	228.4	236.9	263.0
16-Feb	164.1	218.9	219.4	228.6	237.0	263.2
17-Feb	164.0	218.6	219.1	228.3	236.7	262.8
18-Feb	164.7	218.7	219.2	228.4	236.8	263.1
19-Feb	164.8	218.6	219.1	228.2	236.8	262.9
20-Feb	164.7	218.5	218.9	228.1	236.7	262.8
21-Feb	164.5	218.4	219.0	228.1	236.7	262.8
22-Feb	165.4	218.8	219.3	228.3	236.9	263.1
23-Feb	165.8	218.8	219.4	228.3	237.1	263.1
24-Feb	165.9	219.2	219.6	228.7	237.3	263.4
25-Feb	165.6	219.1	219.6	228.3	237.3	263.4
26-Feb	165.7	219.4	219.8	228.7	237.7	263.5
27-Feb	165.6	219.0	219.5	228.6	237.5	263.3
28-Feb	165.8	219.1	219.6	228.7	237.8	263.4
<b>Average</b>	<b>164.9</b>	<b>218.9</b>	<b>219.4</b>	<b>228.7</b>	<b>237.3</b>	<b>263.3</b>

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 2

Date	Depth from Surface					
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft
1-Feb	156.3	238.7	*	259.4	244.1	*
2-Feb	156.3	238.8	*	259.3	244.0	*
3-Feb	156.4	238.9	*	260.1	244.2	*
4-Feb	156.4	239.0	*	260.6	244.3	*
5-Feb	156.3	238.9	*	261.0	244.1	*
6-Feb	156.4	239.0	*	261.0	244.3	*
7-Feb	156.1	238.8	*	260.5	243.9	*
8-Feb	156.5	239.0	*	260.8	244.2	*
9-Feb	156.4	238.9	*	260.7	244.2	*
10-Feb	156.1	238.5	*	260.5	243.7	*
11-Feb	155.7	238.3	*	259.9	243.4	*
12-Feb	155.9	238.3	*	259.9	243.4	*
13-Feb	156.1	238.6	*	260.4	243.8	*
14-Feb	*	*	*	*	*	*
15-Feb	*	*	*	*	*	*
16-Feb	*	*	*	*	*	*
17-Feb	*	*	*	*	*	*
18-Feb	*	*	*	*	*	*
19-Feb	*	*	*	*	*	*
20-Feb	*	*	*	*	*	*
21-Feb	*	*	*	*	*	*
22-Feb	*	*	*	*	*	*
23-Feb	*	*	*	*	*	*
24-Feb	*	*	*	*	*	*
25-Feb	*	*	*	*	*	*
26-Feb	*	*	*	*	*	*
27-Feb	*	*	*	*	*	*
28-Feb	*	*	*	*	*	*
<b>Average</b>	<b>156.2</b>	<b>238.7</b>	<b>N/A</b>	<b>260.3</b>	<b>244.0</b>	<b>N/A</b>

\* Indicates sensor reading issues



### Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 3

Date	Depth from Surface							
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	172.2	233.5	233.2	*	*	*	*	*
2-Feb	170.8	233.8	233.5	*	*	*	*	*
3-Feb	168.2	233.8	233.6	*	*	*	*	*
4-Feb	168.0	233.9	233.6	*	*	*	*	*
5-Feb	166.7	233.7	233.5	*	*	*	*	*
6-Feb	166.2	233.9	233.5	*	*	*	*	*
7-Feb	166.1	234.1	233.8	*	*	*	*	*
8-Feb	164.8	233.9	233.7	*	*	*	*	*
9-Feb	165.0	234.1	233.8	*	*	*	*	*
10-Feb	164.5	233.8	233.5	*	*	*	*	*
11-Feb	164.2	233.5	233.3	*	*	*	*	*
12-Feb	166.8	233.5	233.3	*	*	*	*	*
13-Feb	168.1	233.9	233.6	*	*	*	*	*
14-Feb	164.2	233.8	233.6	*	*	*	*	*
15-Feb	166.9	233.6	233.3	*	*	*	*	*
16-Feb	172.3	233.8	233.6	*	*	*	*	*
17-Feb	167.0	234.0	233.7	*	*	*	*	*
18-Feb	165.6	233.9	233.7	*	*	*	*	*
19-Feb	167.4	233.8	233.5	*	*	*	*	*
20-Feb	168.7	233.9	233.7	*	*	*	*	*
21-Feb	167.8	234.1	233.9	*	*	*	*	*
22-Feb	167.9	234.1	233.8	*	*	*	*	*
23-Feb	168.2	234.3	234.1	*	*	*	*	*
24-Feb	167.9	234.4	234.1	*	*	*	*	*
25-Feb	167.1	234.2	234.0	*	*	*	*	*
26-Feb	166.7	234.3	234.1	*	*	*	*	*
27-Feb	166.0	233.9	233.6	*	*	*	*	*
28-Feb	166.0	234.2	233.9	*	*	*	*	*
<b>Average</b>	<b>167.2</b>	<b>233.9</b>	<b>233.7</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

\* Indicates sensor reading issues

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 5

Date	Depth from Surface							
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	146.3	214.7	215.2	231.0	236.3	238.9	226.0	202.3
2-Feb	146.2	215.1	215.5	231.2	236.5	239.1	226.2	202.5
3-Feb	145.3	215.1	215.6	231.2	236.6	239.3	226.2	202.6
4-Feb	145.4	215.1	215.5	231.2	236.7	239.4	226.3	202.7
5-Feb	145.1	214.9	215.3	231.0	236.5	239.2	226.2	202.5
6-Feb	144.5	215.1	215.5	231.2	236.6	239.3	226.4	202.8
7-Feb	144.6	214.9	215.3	231.1	236.6	239.3	226.3	202.7
8-Feb	144.5	214.8	215.1	231.1	236.7	239.4	226.4	202.9
9-Feb	144.5	214.9	215.2	231.1	236.8	239.6	226.5	203.0
10-Feb	144.0	214.5	214.8	230.7	236.4	239.1	226.0	202.6
11-Feb	143.5	214.3	214.6	230.3	236.1	238.8	225.6	202.3
12-Feb	143.3	214.3	214.6	230.2	236.1	238.9	225.6	202.3
13-Feb	143.3	214.7	215.0	230.4	236.4	239.3	225.9	202.7
14-Feb	143.3	214.5	214.8	230.2	236.1	239.0	225.5	202.4
15-Feb	142.5	214.4	214.7	230.1	236.1	239.0	225.4	202.3
16-Feb	142.4	214.5	214.8	230.2	236.2	239.2	225.0	202.5
17-Feb	142.2	214.5	214.8	229.9	236.2	239.2	224.8	202.5
18-Feb	142.2	214.4	214.8	229.8	236.2	239.0	224.4	202.4
19-Feb	141.5	214.3	214.7	229.7	236.4	239.0	223.9	202.4
20-Feb	141.0	214.3	214.6	229.6	236.5	239.0	223.8	202.4
21-Feb	140.9	214.6	214.9	229.6	236.5	239.3	223.9	202.7
22-Feb	140.6	214.6	214.9	229.3	235.7	239.1	223.4	202.5
23-Feb	140.4	214.7	214.9	229.3	235.7	239.2	223.2	202.7
24-Feb	140.2	214.8	215.1	229.3	235.9	239.3	223.0	202.8
25-Feb	140.0	214.8	215.2	229.2	235.9	239.4	222.7	202.9
26-Feb	140.8	215.1	215.4	229.2	236.2	239.5	222.4	203.0
27-Feb	140.7	215.1	215.4	229.1	236.1	239.3	221.8	202.7
28-Feb	140.8	215.3	215.5	229.2	236.3	239.5	221.5	202.9
<b>Average</b>	<b>142.9</b>	<b>214.7</b>	<b>215.1</b>	<b>230.2</b>	<b>236.3</b>	<b>239.2</b>	<b>224.8</b>	<b>202.6</b>

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 6

Date	Depth from Surface				
	25 ft	50 ft	75 ft	100 ft	125 ft
1-Feb	206.5	208.4	208.8	208.6	208.6
2-Feb	206.7	208.3	208.7	208.6	208.7
3-Feb	206.6	209.0	209.8	209.4	209.5
4-Feb	206.8	211.8	212.7	212.0	212.0
5-Feb	206.8	210.8	211.6	211.0	211.0
6-Feb	206.7	209.8	210.5	210.0	210.1
7-Feb	206.9	209.5	210.3	209.9	210.0
8-Feb	206.7	210.4	210.9	210.7	210.7
9-Feb	207.0	210.6	211.0	210.9	210.9
10-Feb	206.9	210.7	211.1	211.0	210.9
11-Feb	206.3	209.3	209.6	209.4	209.5
12-Feb	206.0	208.9	209.2	209.1	209.1
13-Feb	206.6	209.0	209.1	209.1	209.1
14-Feb	207.0	208.8	208.9	208.9	208.9
15-Feb	206.2	208.4	208.5	208.4	208.5
16-Feb	205.7	207.0	206.9	207.0	207.0
17-Feb	206.5	207.8	207.8	207.9	207.9
18-Feb	206.5	207.9	208.0	208.1	208.0
19-Feb	206.2	208.0	208.1	208.1	208.1
20-Feb	206.4	207.4	207.5	207.6	207.5
21-Feb	187.5	209.4	209.9	209.6	209.8
22-Feb	206.7	207.5	207.6	207.6	207.6
23-Feb	206.7	207.9	207.8	208.0	208.0
24-Feb	206.6	207.8	207.7	207.9	207.8
25-Feb	206.3	207.4	207.4	207.5	207.4
26-Feb	202.6	210.3	210.3	210.4	210.4
27-Feb	206.3	208.1	208.1	208.2	208.2
28-Feb	206.4	208.2	208.4	208.3	208.3
<b>Average</b>	<b>205.7</b>	<b>208.9</b>	<b>209.1</b>	<b>209.0</b>	<b>209.1</b>

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 7

Date	Depth from Surface							
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	144.4	188.3	210.6	194.9	192.1	196.0	204.4	212.5
2-Feb	144.3	184.5	211.3	195.2	191.1	195.6	206.2	216.1
3-Feb	143.7	183.6	211.2	195.1	190.8	195.7	206.4	220.6
4-Feb	143.2	186.1	211.0	194.8	192.0	196.1	205.4	216.3
5-Feb	142.8	185.3	210.8	194.5	191.6	196.0	205.3	216.3
6-Feb	143.0	188.3	210.6	194.5	192.2	196.3	205.5	216.6
7-Feb	143.1	189.9	210.5	194.4	193.2	196.4	204.1	214.4
8-Feb	143.3	189.1	210.5	194.3	192.4	196.2	204.6	212.9
9-Feb	142.8	189.3	210.5	194.3	192.8	196.3	204.5	209.2
10-Feb	142.0	188.3	210.4	194.3	192.4	196.0	204.9	206.9
11-Feb	141.8	185.5	210.0	193.4	191.4	195.1	204.0	208.8
12-Feb	142.3	187.5	209.8	193.2	191.6	195.2	203.7	215.7
13-Feb	142.3	189.3	210.1	193.7	193.3	196.1	202.3	208.4
14-Feb	141.0	187.0	209.8	194.0	193.0	196.0	202.6	207.3
15-Feb	140.3	186.1	209.9	193.7	191.8	195.6	204.1	209.6
16-Feb	140.5	190.4	210.4	193.3	193.0	195.7	202.1	210.8
17-Feb	140.3	192.4	209.8	193.4	194.7	196.1	199.8	207.7
18-Feb	140.0	192.3	209.6	193.3	195.0	196.3	199.4	206.8
19-Feb	139.9	190.6	209.6	193.5	193.6	195.9	201.5	207.6
20-Feb	140.0	194.1	209.7	193.4	196.6	196.7	197.2	200.2
21-Feb	140.6	190.6	209.9	193.6	196.9	197.2	196.7	200.2
22-Feb	140.9	184.8	210.1	193.2	193.1	196.1	201.3	210.0
23-Feb	141.3	186.8	210.0	193.3	193.4	196.4	200.3	214.0
24-Feb	141.7	190.3	210.1	193.5	193.8	196.7	200.2	209.2
25-Feb	141.9	192.5	210.2	193.5	194.2	196.9	199.5	204.2
26-Feb	142.3	193.5	210.0	193.7	195.1	197.1	199.2	204.9
27-Feb	142.4	193.0	210.0	193.7	194.2	196.8	200.0	210.0
28-Feb	142.8	194.5	209.9	193.8	195.1	197.2	198.5	203.4
<b>Average</b>	<b>142.0</b>	<b>189.1</b>	<b>210.2</b>	<b>193.9</b>	<b>193.2</b>	<b>196.2</b>	<b>202.3</b>	<b>210.0</b>

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 8

Date	Depth from Surface							
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	188.5	193.0	193.3	195.8	198.2	198.4	190.3	175.8
2-Feb	188.6	193.2	193.6	196.1	198.4	198.7	190.3	176.0
3-Feb	188.7	193.3	193.6	196.1	198.5	198.7	190.3	176.1
4-Feb	188.8	193.4	193.7	196.1	198.6	198.9	190.5	176.3
5-Feb	188.7	193.3	193.6	196.1	198.5	198.7	190.4	176.2
6-Feb	188.9	193.4	193.7	196.1	198.6	198.9	190.6	176.6
7-Feb	188.6	193.3	193.6	196.0	198.5	198.8	190.4	176.4
8-Feb	188.8	193.4	193.7	196.1	198.7	199.0	190.5	176.3
9-Feb	188.8	193.4	193.7	196.1	198.6	198.9	190.5	176.4
10-Feb	188.3	193.1	193.4	196.0	198.4	198.6	190.1	176.0
11-Feb	188.2	192.8	193.1	195.6	198.1	198.4	189.8	175.6
12-Feb	188.2	192.7	193.0	195.5	198.0	198.4	189.9	175.8
13-Feb	188.3	193.1	193.4	195.8	198.3	198.7	190.3	176.2
14-Feb	188.1	193.0	193.3	195.9	198.4	198.4	189.8	175.6
15-Feb	188.2	192.8	193.1	195.5	198.2	198.6	189.8	175.5
16-Feb	188.4	192.8	193.1	195.4	198.0	198.7	190.1	176.0
17-Feb	188.1	192.8	193.1	195.6	198.2	198.5	190.0	175.8
18-Feb	188.2	192.8	193.2	195.6	198.1	198.5	189.8	175.6
19-Feb	188.3	192.7	193.0	195.4	198.0	198.5	189.7	175.5
20-Feb	188.2	192.6	193.0	195.5	198.0	198.5	189.8	175.6
21-Feb	188.0	192.9	193.3	195.8	198.4	198.6	189.9	175.7
22-Feb	188.5	192.9	193.2	195.7	198.3	198.5	189.7	175.4
23-Feb	188.7	193.0	193.3	195.7	198.3	198.8	190.0	175.8
24-Feb	188.9	193.1	193.4	195.7	198.4	199.0	190.3	176.1
25-Feb	188.9	193.0	193.3	195.6	198.3	199.0	190.4	176.2
26-Feb	189.0	193.2	193.5	195.8	198.5	199.1	190.5	176.3
27-Feb	188.9	193.0	193.3	195.6	198.1	198.9	190.4	176.2
28-Feb	189.0	193.1	193.4	195.7	198.2	199.0	190.5	176.3
<b>Average</b>	<b>188.5</b>	<b>193.0</b>	<b>193.4</b>	<b>195.8</b>	<b>198.3</b>	<b>198.7</b>	<b>190.2</b>	<b>176.0</b>

## Solid Waste Permit 588 Daily Borehole Temperature Averages for Borehole 9

Date	Depth from Surface							
	25 ft	50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
1-Feb	105.3	146.3	144.9	149.0	144.7	131.3	115.4	104.0
2-Feb	106.6	146.9	145.9	149.1	144.9	131.7	115.6	104.1
3-Feb	107.4	147.2	146.2	149.3	145.1	131.9	115.8	104.2
4-Feb	107.3	147.0	146.0	149.5	145.4	132.2	116.1	104.3
5-Feb	107.3	146.6	145.7	149.1	145.2	131.9	115.9	104.0
6-Feb	106.3	146.2	145.1	149.3	145.4	132.2	116.1	104.2
7-Feb	105.4	145.5	144.1	149.0	145.4	132.2	116.0	104.1
8-Feb	105.0	145.1	143.7	148.9	145.5	132.4	116.1	104.2
9-Feb	105.6	144.9	143.3	148.8	145.6	132.6	116.1	104.1
10-Feb	105.5	144.6	143.2	148.3	145.0	131.8	115.6	103.5
11-Feb	103.1	143.6	141.8	147.7	144.7	131.4	115.3	103.2
12-Feb	96.4	141.2	138.5	147.0	144.8	131.5	113.2	103.2
13-Feb	93.2	137.7	135.4	145.8	145.3	131.9	113.3	103.6
14-Feb	95.1	138.0	136.4	145.8	144.9	131.9	113.1	103.7
15-Feb	97.0	138.9	137.5	145.9	144.7	131.9	113.3	103.6
16-Feb	97.7	139.1	137.6	146.2	144.8	132.3	112.7	103.8
17-Feb	98.5	139.4	138.0	146.2	144.6	132.1	112.5	103.9
18-Feb	99.4	139.8	138.4	146.3	144.6	132.0	112.7	104.2
19-Feb	100.9	140.3	138.8	146.4	144.4	131.8	112.9	104.2
20-Feb	102.7	140.5	139.1	146.4	144.2	131.7	113.1	104.1
21-Feb	103.9	141.4	139.9	146.6	144.3	131.7	113.4	104.3
22-Feb	104.7	142.4	140.8	146.9	144.5	131.7	113.6	104.5
23-Feb	105.6	143.0	141.4	147.3	144.6	131.8	113.8	104.8
24-Feb	106.8	143.6	142.1	147.6	144.7	132.0	114.0	105.0
25-Feb	106.9	143.9	142.2	147.7	144.8	132.0	114.0	105.1
26-Feb	107.0	144.1	142.6	147.9	144.9	132.1	114.0	105.3
27-Feb	106.9	143.6	142.4	147.7	144.7	131.8	113.5	105.1
28-Feb	107.6	144.1	142.9	147.8	144.9	132.0	114.5	105.2
<b>Average</b>	<b>103.4</b>	<b>143.0</b>	<b>141.6</b>	<b>147.6</b>	<b>144.9</b>	<b>131.9</b>	<b>114.3</b>	<b>104.2</b>

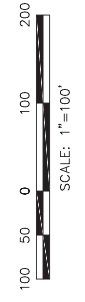
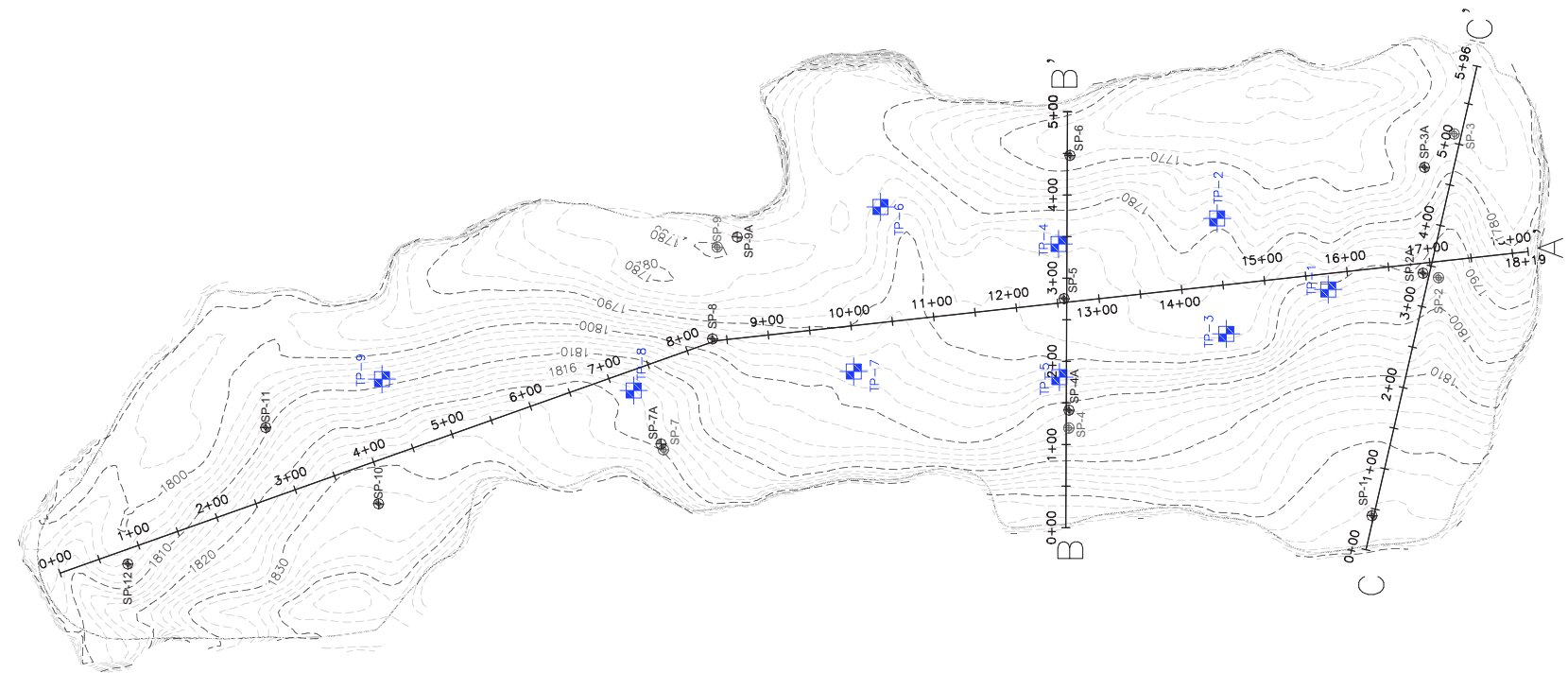
# Appendix E

## Monthly Topography Analysis

- LEGEND**
- MAJOR CONTOURS (EVERY 10')
  - MINOR CONTOURS (EVERY 2')
  - - - APPROXIMATE SIDEWALL LOCATION
  - SETTLEMENT PLATE
  - ⊙@SP-8 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙@SP-9 DECOMMISSIONED SETTLEMENT PLATE
  - TP-3+4+ TEMPERATURE MONITORING PROBE

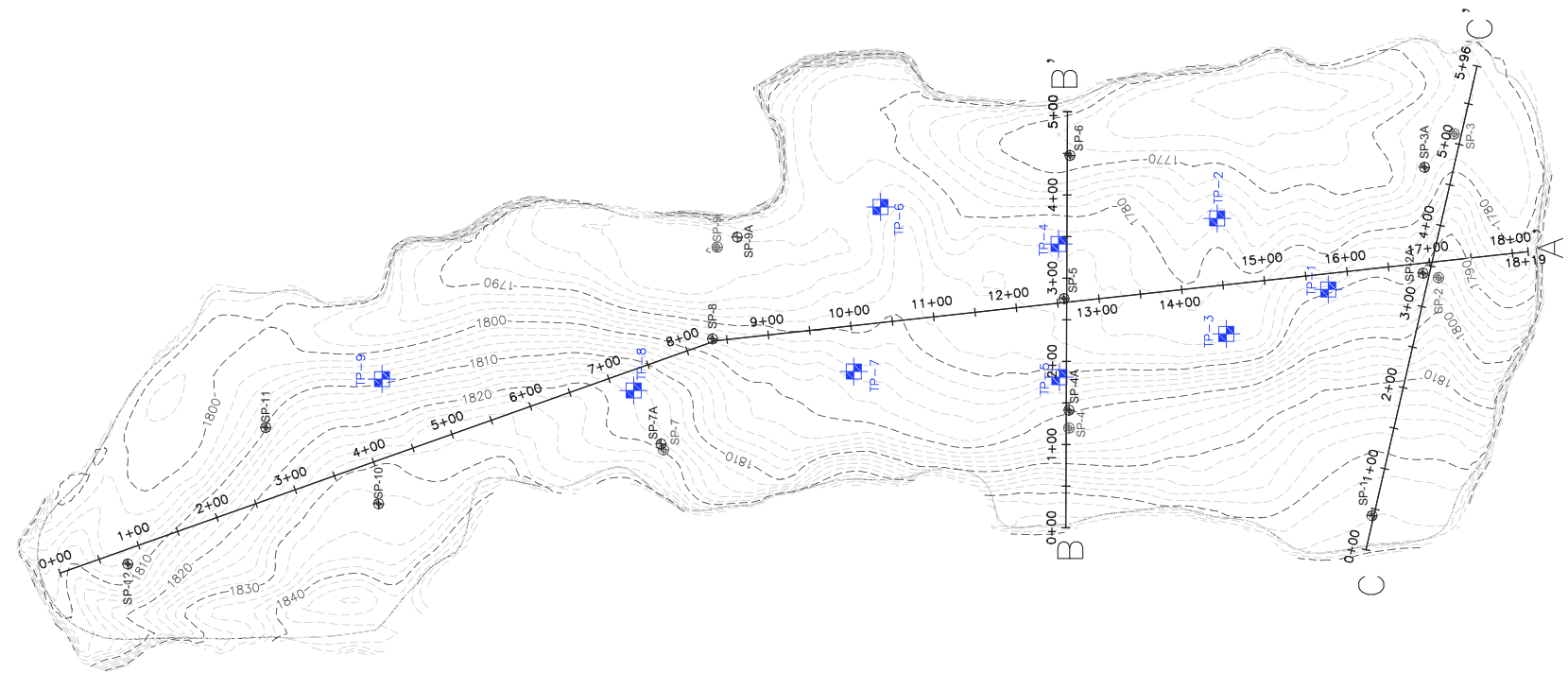
**NOTES:**

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON FEBRUARY 15, 2024 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.



<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 1525 MIDLOTHIAN TRPK - MIDLOTHIAN, VA 23113 PH: (804) 378-7440 FAX: (804) 378-7433	
PROJ NO: 02218208.05	DWN. BY: LH
DESK. BY: CJW	APP. BY: CJW
CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VIRGINIA 24201	
SHEET TITLE <b>FEBRUARY 2024 LANDFILL TOPOGRAPHY</b>	
PROJECT TITLE <b>MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588</b>	
NO.	REVISION
DATE	DATE
CADD FILE: SURF_COMP	
DATE: 3/3/2025	
SCALE:	
DRAWING NO.	





- LEGEND:**
- MAJOR CONTOURS (EVERY 10')
  - MINOR CONTOURS (EVERY 2')
  - APPROXIMATE SIDEWALL LOCATION
  - SETTLEMENT PLATE
  - ⊙ SP-8 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙ SP-9 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙ TP-3A, TP-3B, TP-3C TEMPERATURE MONITORING PROBE

**NOTES:**

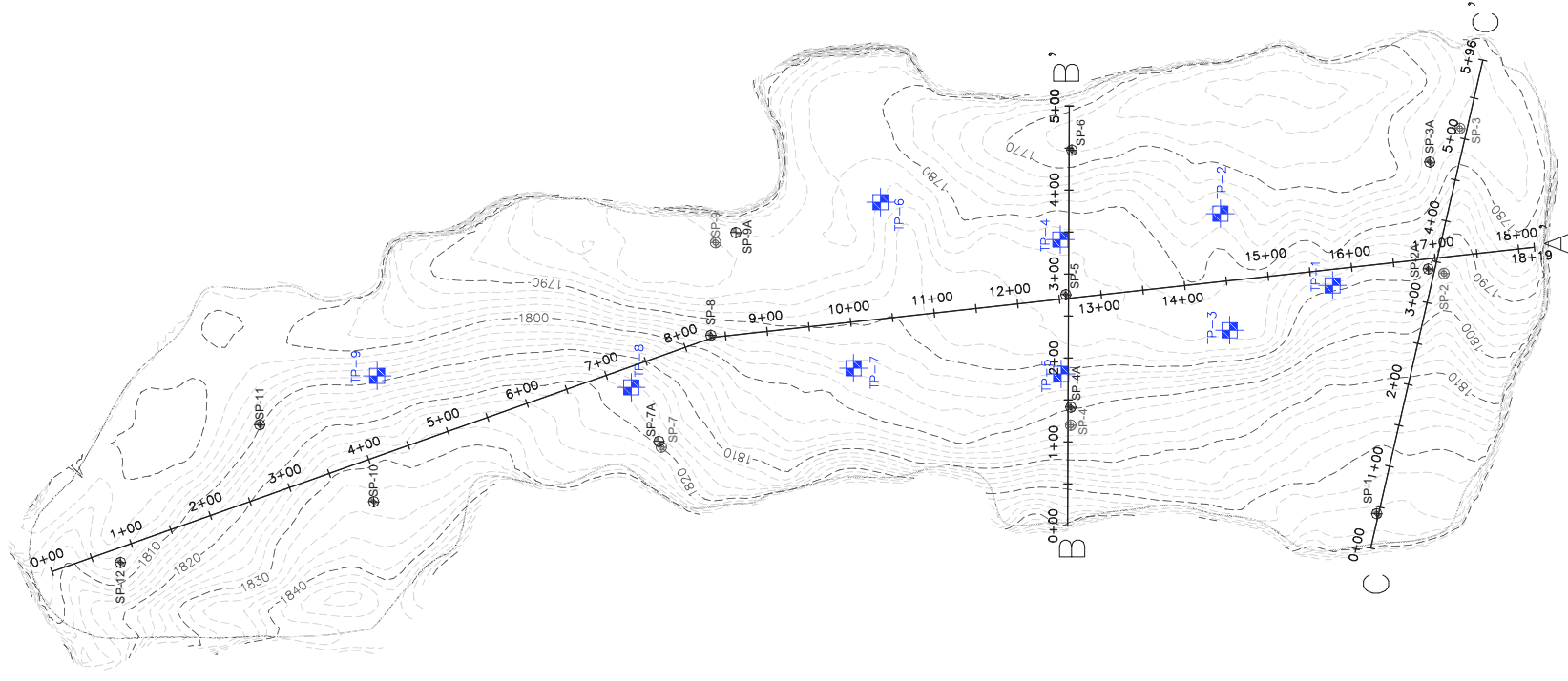
1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON NOVEMBER 12, 2024 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.

SHEET TITLE <b>NOVEMBER 2024                  LANDFILL TOPOGRAPHY</b>	PROJECT TITLE <b>MONTHLY TOPOGRAPHY ANALYSIS                  SOLID WASTE PERMIT #588</b>	CLIENT <b>CITY OF BRISTOL INTEGRATED SOLID                  WASTE MANAGEMENT FACILITY                  2655 VALLEY DRIVE                  BRISTOL, VIRGINIA 24201</b>	PROJ. NO. 02218208.05 DWN. BY: LH CJK CJK	CADD FILE: SURF_COMP
NO.	REVISION	DATE	DATE: 3/3/2025	SCALE: DRAWING NO.

- LEGEND**
- MAJOR CONTOURS (EVERY 10')
  - MINOR CONTOURS (EVERY 2')
  - APPROXIMATE SIDEWALL LOCATION
  - SETTLEMENT PLATE
  - ⊙@SP-8 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙@SP-9 DECOMMISSIONED SETTLEMENT PLATE
  - TP-3, TP-4, TP-5, TP-6, TP-7, TP-8, TP-9 TEMPERATURE MONITORING PROBE

**NOTES:**

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON JANUARY 14, 2025 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.

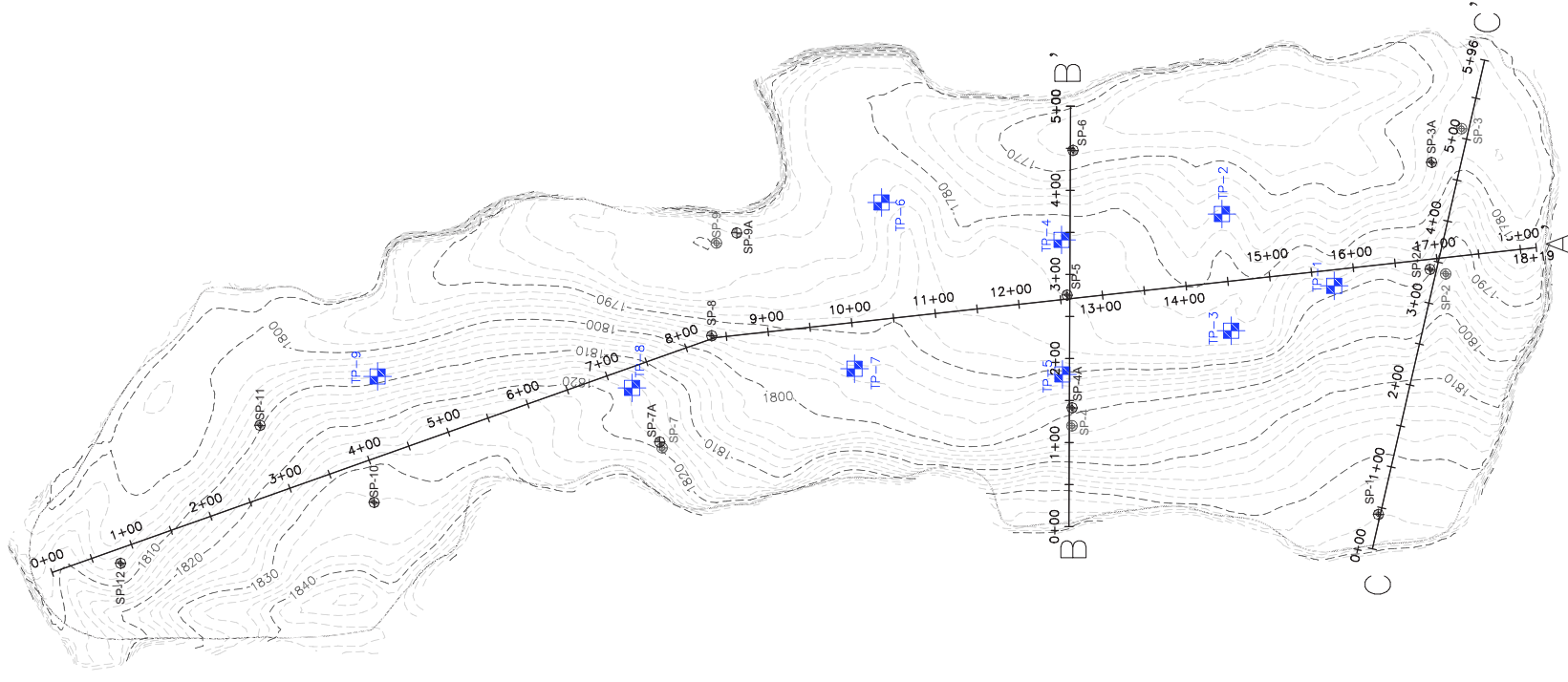


NO.	REVISION	DATE

- LEGEND**
- MAJOR CONTOURS (EVERY 10')
  - MINOR CONTOURS (EVERY 2')
  - APPROXIMATE SIDEWALL LOCATION
  - SETTLEMENT PLATE
  - ⊙ SP-8 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙ SP-9 DECOMMISSIONED SETTLEMENT PLATE
  - ⊙ TP-3 TEMPERATURE MONITORING PROBE

**NOTES:**

1. GRADES SHOWN AS CONTOUR LINES ONLY WITHIN THE PERMIT 588 BOUNDARY REPRESENT THE TOPOGRAPHY CAPTURED ON FEBRUARY 18, 2025 BY SCS ENGINEERS.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.



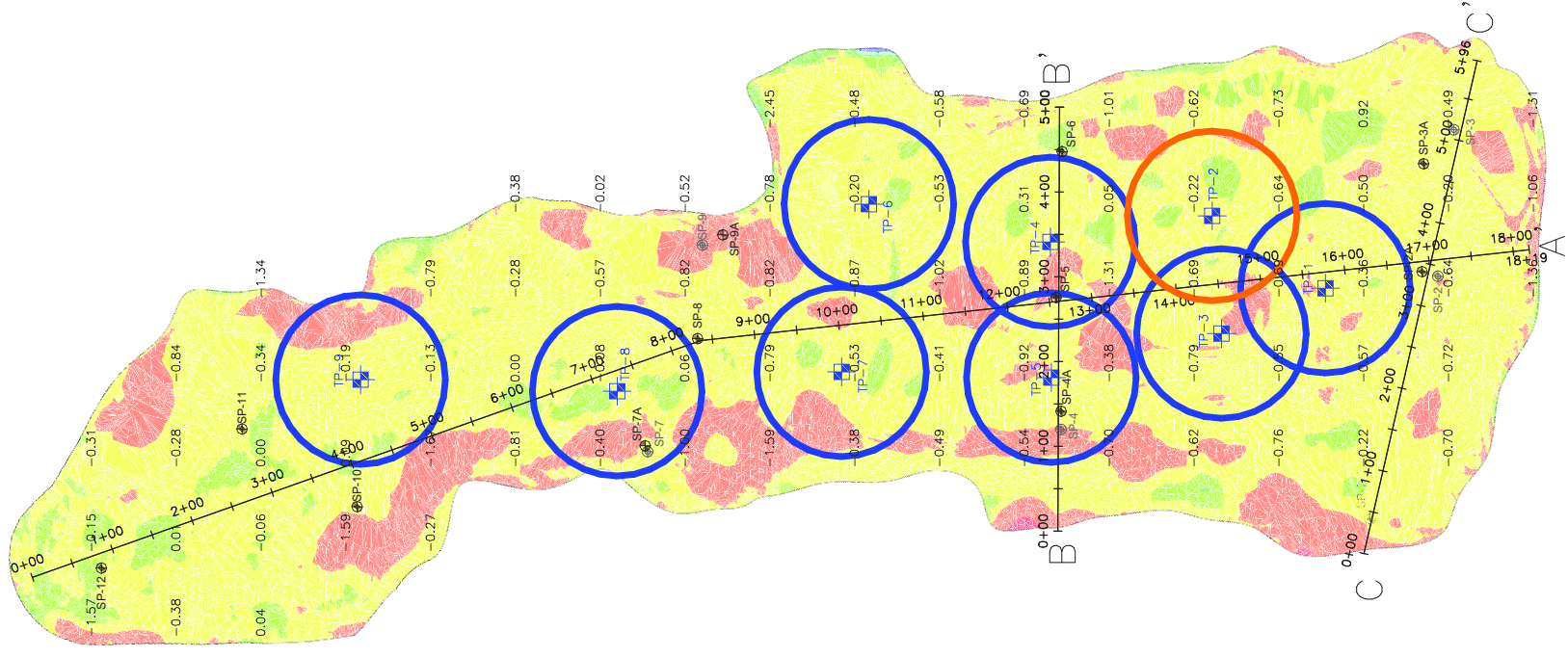
<b>SCS ENGINEERS</b> STARNES, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 1521 MIDLOTHIAN TPK - MIDLOTHIAN, VA 23113 PH (804) 378-7440 FAX (804) 378-7433	
PROJ. NO. 02218208.05	DWG. BY: L.H.
CHK. BY: CJM	APP. BY: CJM
DATE: 3/3/2025	SCALE: AS SHOWN
CADD FILE: SURF_COMP	
DRAWING NO.	

CLIENT	<b>CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY</b> 2655 VALLEY DRIVE BRISTOL, VIRGINIA 24201
SHEET TITLE	LANDFILL TOPOGRAPHY
PROJECT TITLE	<b>MONTHLY TOPOGRAPHY ANALYSIS</b> <b>SOLID WASTE PERMIT #588</b>

NO.	REVISION	DATE

**LEGEND**

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE WASTE BOUNDARY
- SETTLEMENT PLATE
- DECOMMISSIONED SETTLEMENT PLATE
- SPOT ELEVATION ON 100' GRID
- TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200' F
- TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200' F AND 250' F
- TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250' F AND 300' F



**Volume**

Base Surface TOPO	— January 14, 2025
Comparison Surface TOPO	— February 18, 2025
Cut Volume	17,678 Cu. Yd.
Fill Volume	624 Cu. Yd.
Net Fill	17,054 Cu. Yd.

**Elevations Table**

Number	Minimum Elevation	Maximum Elevation	Color
1	-20.000	-10.000	Red
2	-10.000	-5.000	Pink
3	-5.000	-1.000	Orange
4	-1.000	0.000	Yellow
5	0.000	1.000	Light Green
6	1.000	5.000	Green
7	5.000	10.000	Dark Green
8	10.000	20.000	Blue

**NOTES:**

1. THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON JANUARY 14, 2025 AND FEBRUARY 18, 2025 BY SGS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (-) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT.
2. ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.
3. THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011)
4. THE VERTICAL DATUM IS BASED UPON NAVD-88.



SHEET TITLE  
**FEBRUARY VOLUME CHANGE**  
JANUARY 2025 TO FEBRUARY 2025

PROJECT TITLE  
**MONTHLY TOPOGRAPHY ANALYSIS**  
SOLID WASTE PERMIT #588

CLIENT  
**CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY**  
2655 VALLEY DRIVE  
BRISTOL, VIRGINIA 24201

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS, INC.  
1521 MIDLOTHIAN TRPK - MIDLOTHIAN, VA 23113  
PH (804) 378-7440 FAX (804) 378-7433

PROJ. NO. 02218208.05  
CHK. BY: CJM  
APP. BY: CJM  
DATE: 3/3/2025

CADD FILE: SURF\_COMP  
DATE: 3/3/2025  
SCALE:  
DRAWING NO. **5**

**SCS ENGINEERS**  
 STARN, CONRAD AND SCHMIDT  
 CONSULTING ENGINEERS, INC.  
 1521 MIDLOTHIAN TRK - MIDLOTHIAN, VA 23113  
 PH (804) 378-7440 FAX (804) 378-7433  
 O/A R/W BY: CJM  
 App. By: CJM  
 CHK. BY: CJM  
 PROJ. NO. 02218208.05  
 BSK. BY:

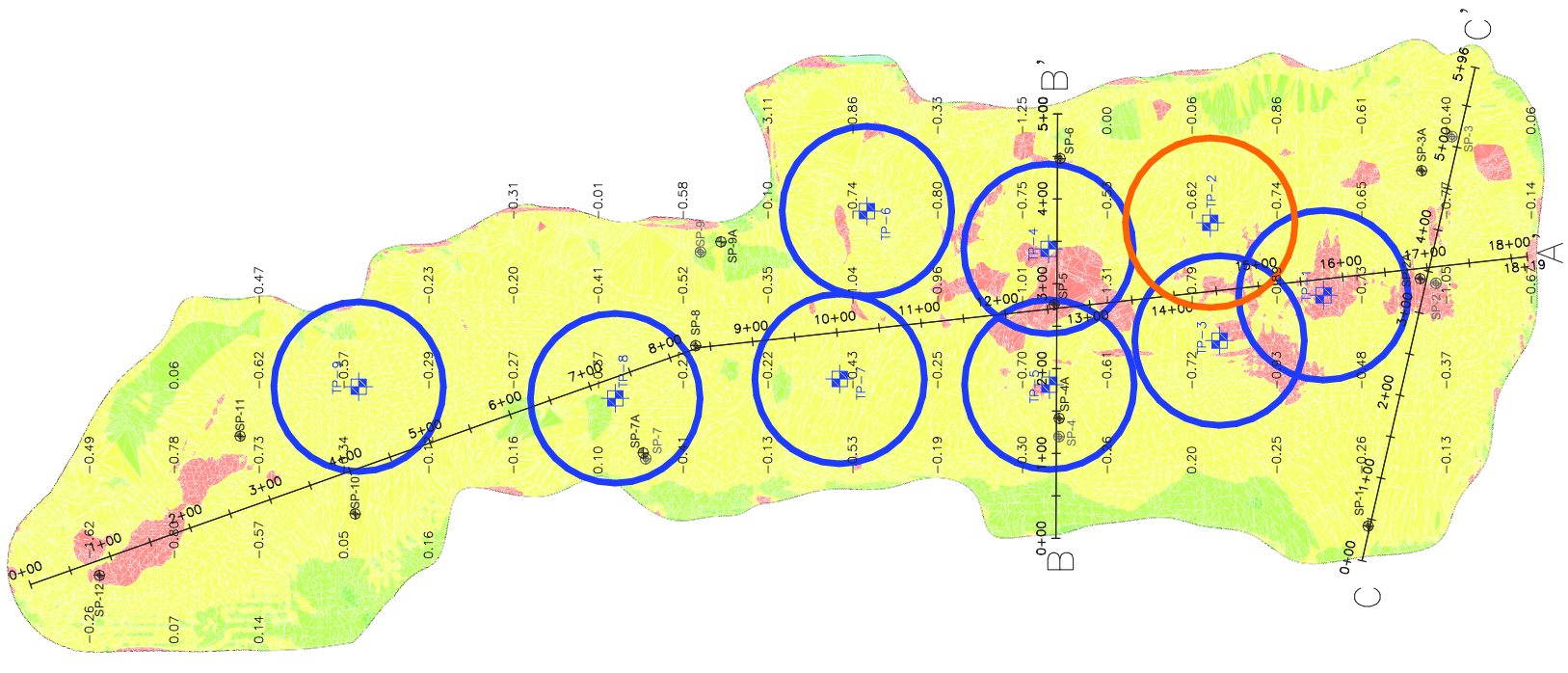
**CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY**  
 2655 VALLEY DRIVE  
 BRISTOL, VIRGINIA 24201

**MONTHLY TOPOGRAPHY ANALYSIS**  
**SOLID WASTE PERMIT #588**

SHEET TITLE	NO.	REVISION	DATE
FEBRUARY VOLUME CHANGE			
NOVEMBER 2024 TO FEBRUARY 2025			



- LEGEND**
- MAJOR CONTOURS (EVERY 10')
  - MINOR CONTOURS (EVERY 2')
  - APPROXIMATE WASTE BOUNDARY
  - SETTLEMENT PLATE
  - DECOMMISSIONED SETTLEMENT PLATE
  - SPOT ELEVATION ON 100' GRID
  - TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200' F
  - TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200' F AND 250' F
  - TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250' F AND 300' F



**Volume**

Base Surface TOPO	November 12, 2024
Comparison Surface TOPO	February 18, 2025
Cut Volume	12,774 Cu. Yd.
Fill Volume	922 Cu. Yd.
Net Cut	11,852 Cu. Yd.

**Elevations Table**

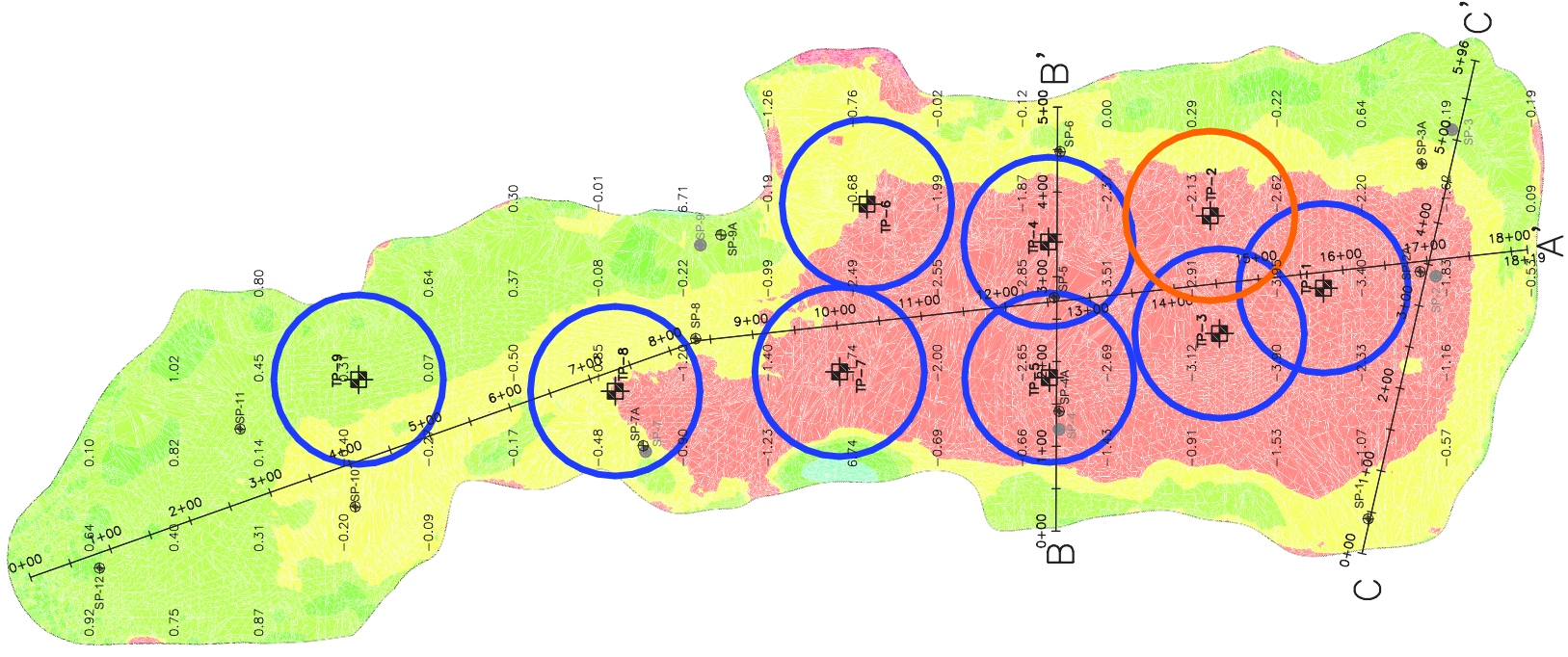
Number	Minimum Elevation	Maximum Elevation	Color
1	-20.000	-10.000	Red
2	-10.000	-5.000	Pink
3	-5.000	-1.000	Light Green
4	-1.000	0.000	Yellow
5	0.000	1.000	Light Green
6	1.000	5.000	Green
7	5.000	10.000	Light Green
8	10.000	20.000	Blue

**NOTES:**

- THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON NOVEMBER 12, 2024 AND FEBRUARY 18, 2025 BY SCS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (-) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT.
- ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES, OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR DESIGN, MODIFICATION, OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.
- THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011).
- THE VERTICAL DATUM IS BASED UPON NAVD-88.

LEGEND

- MAJOR CONTOURS (EVERY 10')
- MINOR CONTOURS (EVERY 2')
- APPROXIMATE WASTE BOUNDARY
- SETTLEMENT PLATE
- DECOMMISSIONED SETTLEMENT PLATE
- SPOT ELEVATION ON 100' GRID
- TP-8 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH LESS THAN 200' F
- TP-11 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 200' F AND 250' F
- TP-2 TEMPERATURE MONITORING PROBE WITH AVERAGE TEMPERATURES AT DEPTH BETWEEN 250' F AND 300' F



Volume  
 Base Surface TOPO - February 15, 2024  
 Comparison Surface TOPO - February 18, 2025  
 Cut Volume 28,235 Cu. Yd.  
 Fill Volume 6,810 Cu. Yd.  
 Net Cut 21,425 Cu. Yd.

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-20.000	-10.000	Red
2	-10.000	-5.000	Pink
3	-5.000	-1.000	Light Red
4	-1.000	0.000	Yellow
5	0.000	1.000	Light Green
6	1.000	5.000	Green
7	5.000	10.000	Light Blue
8	10.000	20.000	Blue

NOTES:

- THE ELEVATION CHANGES ARE CALCULATED BETWEEN THE AERIAL TOPOGRAPHY DATA CAPTURED ON FEBRUARY 15, 2024 AND FEBRUARY 18, 2025 BY SCS ENGINEERS. POSITIVE VALUES (+) INDICATE AREAS OF FILL AND NEGATIVE VALUES (-) INDICATE AREAS OF CUT (SETTLEMENT). VALUES ARE ROUNDED TO THE NEAREST FOOT
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- THE HORIZONTAL DATUM IS STATE PLANE VIRGINIA SOUTH ZONE NAD-83 (2011)
- THE VERTICAL DATUM(S) IS BASED UPON NAVD-88.



SHEET TITLE  
 FEBRUARY VOLUME CHANGE  
 PROJECT TITLE  
 MONTHLY TOPOGRAPHY ANALYSIS  
 SOLID WASTE PERMIT #588

CLIENT  
 CITY OF BRISTOL INTEGRATED SOLID  
 WASTE MANAGEMENT FACILITY  
 2655 VALLEY DRIVE  
 BRISTOL, VIRGINIA 24201

SCS ENGINEERS  
 STARNES, CONRAD AND SCHMIDT  
 CONSULTING ENGINEERS, INC.  
 1521 MIDLOTHIAN TPK - MIDLOTHIAN, VA 23113  
 PH (804) 378-7440 FAX (804) 378-7433  
 O/A R/W BY: CJM  
 App. By: CJM  
 CHK. By: CJM  
 PROJ. NO. 02218208.05  
 DATE: 3/3/2025  
 CADD FILE: SURF\_COMP

DRAWING NO.  
 SCALE:  
 DATE: 3/3/2025  
 CADD FILE: SURF\_COMP  
 PROJECT TITLE  
 SHEET TITLE  
 NO.  
 REVISION  
 DATE

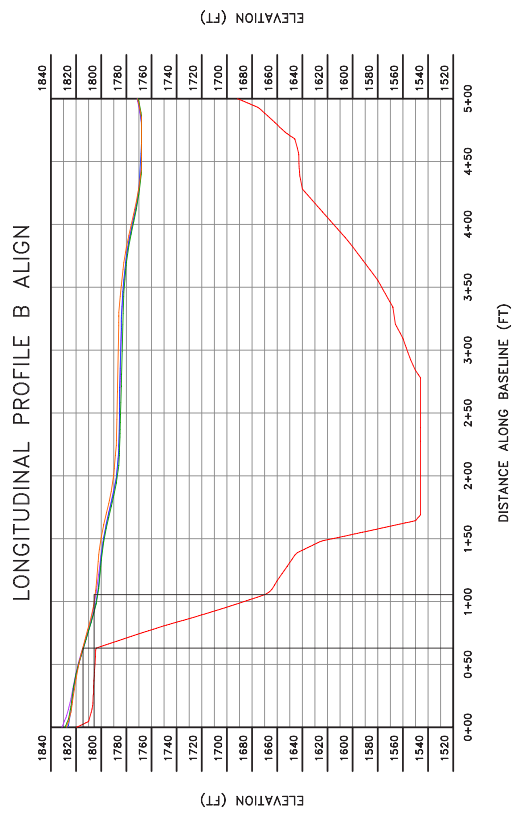
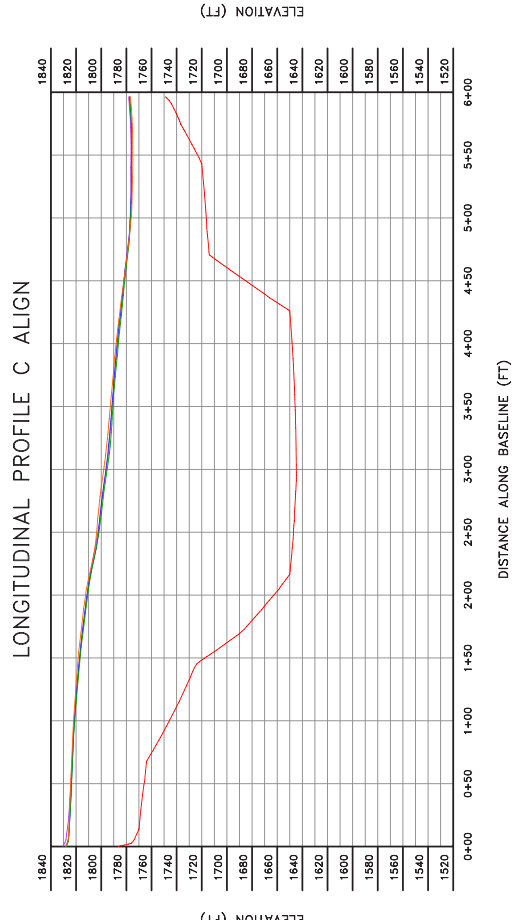
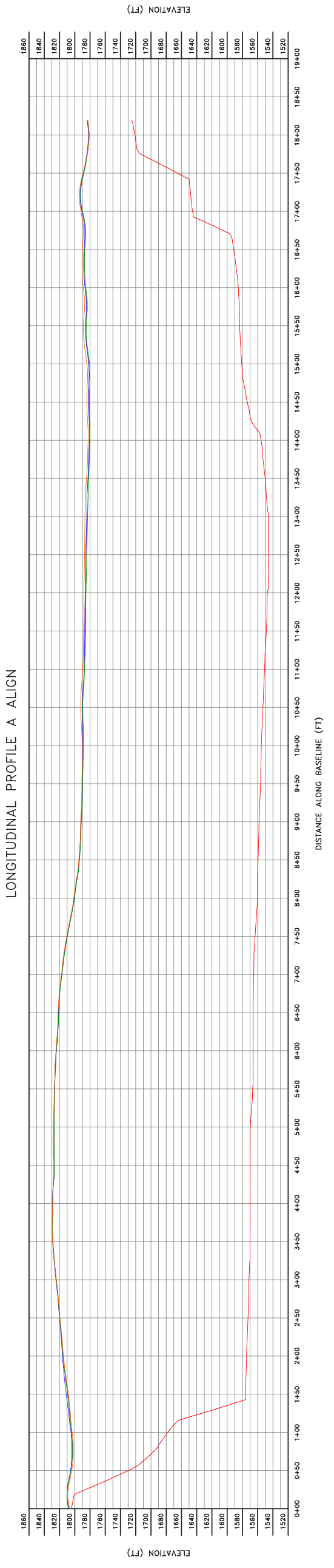
**SCS ENGINEERS**  
 STERN, CONRAD AND SCHMIDT  
 CONSULTING ENGINEERS, INC.  
 1521 MIDLOTHIAN PK - MIDLOTHIAN, VA 23113  
 PH (804) 378-7440 FAX (804) 378-7433  
 O/A RW: BR  
 C/JM  
 L/H  
 App. Br: C/JM  
 C/JM

CLIENT  
**CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY**  
 2655 VALLEY DRIVE  
 BRISTOL, VIRGINIA 24201

SHEET TITLE  
**PROFILES**  
 PROJECT TITLE  
**MONTHLY TOPOGRAPHY ANALYSIS SOLID WASTE PERMIT #588**

NO.	REVISION	DATE

- LEGEND**
- BOTTOM LINER ELEVATION
  - FEBRUARY 2024 TOPO
  - NOVEMBER 2024 TOPO
  - JANUARY 2025 TOPO
  - FEBRUARY 2025 TOPO



Appendix F  
Field Logs  
Lab Report  
Historical LFG-EW Leachate Monitoring Results Summary



Appendix F  
Field Logs  
Lab Report  
Historical LFG-EW Leachate Monitoring Results Summary  
Time-Series Plots

City of Bristol SWP 588 Landfill  
Dual Phase LFG-EW Liquid Level Measurement Log

Date	1/3/2025 - 1/4/2025													
Personnel	L. Tucker, M. Nguyen								Checked By: L. Howard					
Location ID	Date	Casing Stickup (ft)	Depth to Liquid (ft)	Prior Depth to Liquid (ft) (1/25)	Cycle Count	Prior Cycle Count (1/25)	Well Casing Depth (ft)	Pump Depth (ft)	Liquid Column Thickness	Pump (Y/N)	Pump PSI	Sample Collected	Check/Photo	Comments
<b>PUMP INSTALLED</b>														
EW-33B	2/4/2025	5.25	102.76	107.46	94	94	185.00	140	82.24	Y	0	N	✓	Air turned off
EW-36A	2/4/2025	5.75	52.94	46.78	Too tall to see	59999	180.00	135	127.06	Y	0	N	✓	Air turned off
EW-49	2/4/2025	6.17	73.94	71.39	79585	79565	96.15	87	22.21	Y	0	N	✓	Air turned off
EW-50	2/4/2025	4.75	49.04	50.15	1527474	1513919	77.70	83	28.66	Y	80	Y	✓	---
EW-51	2/4/2025	4.17	31.31	32.02	180635	180635	92.80	95	61.49	Y	0	N	✓	Air turned off
EW-52	2/3/2025	3.33	47.78	47.11	1233857	1233644	98.70	80	50.92	Y	110	N	✓	---
EW-53	2/3/2025	5.08	54.00	---	3294343	3294343	100.70	77	46.70	Y	---	N	✓	Air disconnected, Lost PVC indicator around 4 ft. inside well
EW-54	2/3/2025	4.42	34.10	36.46	---	1207083	82.70	65	48.60	Y	---	N	✓	Air disconnected
EW-55	2/3/2025	4.92	43.00	45.05	73350	72336	90.40	90	47.40	Y	100	N	✓	---
EW-57	2/3/2025	4.83	45.32	46.00	---	---	107.40	94	62.08	Y	---	N	✓	Air disconnected
EW-59	2/3/2025	4.42	59.75	42.81	3525359	3497038	73.40	61	13.65	Y	80	N	✓	---
EW-60	2/4/2025	5.08	49.32	46.91	104522	101985	81.80	72.5	32.48	Y	110	N	✓	---
EW-61	2/4/2025	3.21	75.23	65.94	474806	431469	87.80	75	12.57	Y	90	Y	✓	---
EW-62	2/4/2025	4.75	74.52	83.24	214599	214599	110.60	91.5	36.08	Y	0	N	✓	Air on, PSI reading 0
EW-64	2/4/2025	4.50	90.24	93.25	196791	196791	109.00	90	18.76	Y	0	N	✓	Air on, PSI reading 0
EW-65	2/4/2025	5.04	62.95	65.75	77155	77153	88.40	70	25.45	Y	0	N	✓	Air turned off
EW-67	2/3/2025	3.21	42.92	45.58	288743	288741	107.75	76	64.83	Y	0	N	✓	Air turned off
EW-68	2/4/2025	1.92	45.07	53.47	2640891	2638794	73.57	60	28.50	Y	110	N	✓	---
EW-69	2/4/2025	4.71	95.33	94.17	18	18	98.00	---	2.67	Y	0	N	✓	Air on, PSI reading 0
EW-78	2/4/2025	3.92	49.01	44.08	3744	2486	57.00	47	7.99	Y	100	N	✓	---
EW-81	2/4/2025	6.67	106.91	83.15	Too tall to see	---	151.56	125	44.65	Y	Too tall	N	✓	Air disconnected
EW-82	2/4/2025	4.75	134.47	---	631289	631289	163.26	145	28.79	Y	0	N	✓	Air turned off
EW-83	2/4/2025	5.71	97.63	93.90	Too tall to see	---	167.04	145	69.41	Y	0	N	✓	Air turned off
EW-85	2/4/2025	4.88	61.46	62.66	273333	252602	91.00	78	29.54	Y	115	Y	✓	---
EW-87	2/4/2025	6.21	59.61	60.98	340749	340749	149.57	110	89.96	Y	---	N	✓	Air turned off

City of Bristol SWP 588 Landfill  
Dual Phase LFG-EW Liquid Level Measurement Log

Date	1/3/2025 - 1/4/2025													
Personnel	L. Tucker, M. Nguyen								Checked By: L. Howard					
Location ID	Date	Casing Stickup (ft)	Depth to Liquid (ft)	Prior Depth to Liquid (ft) (1/25)	Cycle Count	Prior Cycle Count (1/25)	Well Casing Depth (ft)	Pump Depth (ft)	Liquid Column Thickness	Pump (Y/N)	Pump PSI	Sample Collected	Check/Photo	Comments
EW-88	2/4/2025	4.42	54.89	58.65	254736	254736	100.00	61	45.11	Y	---	N	✓	Air disconnected
EW-89	2/4/2025	4.88	46.98	47.32	0	---	84.57	70	37.59	Y	---	N	✓	Air turned off
EW-90	2/3/2025	4.17	49.30	49.32	---	---	114.00	101	64.70	Y	---	N	✓	Air disconnected
EW-93	2/4/2025	4.21	39.70	38.09	987829	896817	111.00	---	71.30	Y	92	N	✓	PSI did not go back up once air was reconnected
EW-96	2/3/2025	7.33	---	---	---	---	164.35	145	---	Y	---	N	✓	Too tall
EW-98	2/3/2025	4.25	33.70	29.40	1550962	1500838	51.00	46	17.30	Y	102	N	✓	---
<b>NO PUMP</b>														
EW-56	2/3/2025	5.13	Dry	Dry	---	---	42.71	---	Dry	N	---	N	✓	---
EW-63	2/4/2025	4.75	88.42	73.92	---	---	117.00	---	28.58	N	---	N	✓	---
EW-66	2/3/2025	6.33	48.41	---	---	---	---	---	---	N	---	N	✓	---
EW-70	2/4/2025	2.13	65.13	---	---	---	71.00	58	---	N	0	N	✓	---
EW-71	2/4/2025	5.54	159.70	170.11	---	---	185.80	---	26.10	N	---	N	✓	---
EW-72	2/4/2025	4.79	118.54	120.72	---	---	141.21	---	22.67	N	---	N	✓	---
EW-73	2/4/2025	3.96	107.53	107.33	---	---	116.00	---	8.47	N	---	N	✓	---
EW-74	2/4/2025	6.96	159.68	163.98	---	---	184.15	---	24.47	N	---	N	✓	---
EW-77*	---	---	---	---	---	---	185.22	---	---	---	---	---	---	---
EW-79	2/4/2025	5.92	134.39	---	---	---	185.64	---	---	N	---	N	✓	---
EW-80*	---	---	---	---	---	---	149.00	---	---	---	---	---	---	---
EW-84*	---	---	---	---	---	---	130.56	---	---	---	---	---	---	---
EW-86	2/4/2025	3.29	80.93	77.23	---	---	153.00	---	72.07	N	---	N	✓	---
EW-91	2/3/2025	5.42	41.23	49.57	---	---	137.70	---	96.47	N	---	N	✓	---
EW-92	2/4/2025	8.13	---	---	---	---	112.99	---	---	N	---	N	✓	Too tall
EW-95	2/3/2025	4.38	67.18	54.86	---	---	68.00	---	0.82	N	---	N	✓	---
EW-97	2/3/2025	8.08	---	---	---	---	144.50	---	---	N	---	N	✓	Too tall
EW-99	2/3/2025	4.42	60.35	60.22	---	---	65.00	---	4.65	N	---	N	✓	---

City of Bristol SWP 588 Landfill  
Dual Phase LFG-EW Liquid Level Measurement Log

Date	1/3/2025 - 1/4/2025													
Personnel	L. Tucker, M. Nguyen							Checked By: L. Howard						
Location ID	Date	Casing Stickup (ft)	Depth to Liquid (ft)	Prior Depth to Liquid (ft) (1/25)	Cycle Count	Prior Cycle Count (1/25)	Well Casing Depth (ft)	Pump Depth (ft)	Liquid Column Thickness	Pump (Y/N)	Pump PSI	Sample Collected	Check/Photo	Comments
<b>MEASURE CASING STICKUP AND CYCLE COUNTER ONLY</b>														
EW-75*	2/4/2025	6.00	---	DNM	---	---	130.82	140	---	N	---	N	✓	---
EW-76	2/4/2025	3.67	---	DNM	---	---	127.00	108	---	Y	---	N	✓	Air disconnected
EW-94	2/3/2025	3.79	---	DNM	804100	697364	50.00	38	---	Y	90	N	✓	---

DNM = Do not measure

\* = Unable to get depth to liquid due to damage to forcemain causing wells to be not under vacuum and therefore unsafe to open.



Dual Phase LFG-EW Sample Collection Log

Location ID	Sample Date	Sample Time	Temperature (oC)	pH (s.u.)	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)	Observations
EW-73	---	---	---	---	---	---	---	---	---
EW-74	---	---	---	---	---	---	---	---	---
EW-75	---	---	---	---	---	---	---	---	---
EW-76	---	---	---	---	---	---	---	---	---
EW-78	---	---	---	---	---	---	---	---	---
EW-81	---	---	---	---	---	---	---	---	---
EW-82	---	---	---	---	---	---	---	---	---
EW-83	---	---	---	---	---	---	---	---	---
EW-85	2/4/2025	8:55	57.2	6.46	30872	---*	-222	56.81	Dark brown, foamy, floating sheen
EW-87	---	---	---	---	---	---	---	---	---
EW-88	---	---	---	---	---	---	---	---	---
EW-89	---	---	---	---	---	---	---	---	---
EW-90	---	---	---	---	---	---	---	---	---
EW-91	---	---	---	---	---	---	---	---	---
EW-92	---	---	---	---	---	---	---	---	---
EW-94	---	---	---	---	---	---	---	---	---
EW-96	---	---	---	---	---	---	---	---	---
EW-98	---	---	---	---	---	---	---	---	---
EW-100	---	---	---	---	---	---	---	---	---
Sampler: L. Tucker, M. Nguyen						Samples Shipped By: FedEx			
Log Checked By: L. Howard						Laboratory: Enthalpy Analytical			

\* D.O. gave an error of +++++ on YSI, could not get a reading



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

## Certificate of Analysis

*Final Report*

Laboratory Order ID 25B0274

Client Name: SCS Engineers - Winchester  
296 Victory Road  
Winchester, VA 22602

Date Received: February 5, 2025 10:05  
Date Issued: February 26, 2025 10:01  
Project Number: 02218208.15 Task 3  
Purchase Order:

Submitted To: Jennifer Robb

Client Site I.D.: LFG-EW Monthly Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 02/05/2025 10:05. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Sarah R. Endsley  
Laboratory Manager

**End Notes:**

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.

**Analysis Detects Report**

 Client Name: SCS Engineers - Winchester  
 Client Site ID: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Laboratory Sample ID: 25B0274-01

Client Sample ID: EW-50

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Arsenic	01	SW6020B	170		5.0	10	10	ug/L
Barium	01	SW6020B	633		10.0	50.0	10	ug/L
Chromium	01	SW6020B	210		4.00	10.0	10	ug/L
Nickel	01	SW6020B	92.75		10.00	10.00	10	ug/L
Zinc	01	SW6020B	40.5	J	25.0	50.0	10	ug/L
2-Butanone (MEK)	01	SW8260D	6930		60.0	200	20	ug/L
Acetone	01RE1	SW8260D	9820		700	1000	100	ug/L
Benzene	01	SW8260D	739		8.00	20.0	20	ug/L
Ethylbenzene	01	SW8260D	164		8.00	20.0	20	ug/L
Tetrahydrofuran	01	SW8260D	1020		200	200	20	ug/L
Toluene	01	SW8260D	271		10.0	20.0	20	ug/L
Xylenes, Total	01	SW8260D	267		20.0	60.0	20	ug/L
Ammonia as N	01	EPA350.1 R2.0	1300		73.1	100	1000	mg/L
BOD	01	SM5210B-2016	4420		0.2	2.0	1	mg/L
COD	01	SM5220D-2011	3630		1000	1000	100	mg/L
TKN as N	01	EPA351.2 R2.0	1190		100	250	500	mg/L
Total Recoverable Phenolics	01	SW9065	8.15		0.750	1.25	1	mg/L



**Analysis Detects Report**

Client Name: SCS Engineers - Winchester  
 Client Site ID: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Laboratory Sample ID: 25B0274-02      Client Sample ID: EW-85

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Arsenic	02	SW6020B	730		5.0	10	10	ug/L
Barium	02	SW6020B	1480		10.0	50.0	10	ug/L
Cadmium	02	SW6020B	10.1		1.00	10.0	10	ug/L
Chromium	02	SW6020B	196		4.00	10.0	10	ug/L
Copper	02RE1	SW6020B	3.81	J	3.00	10.0	10	ug/L
Lead	02	SW6020B	20		10	10	10	ug/L
Nickel	02	SW6020B	102.1		10.00	10.00	10	ug/L
Zinc	02	SW6020B	527		25.0	50.0	10	ug/L
2-Butanone (MEK)	02	SW8260D	23900		150	500	50	ug/L
Acetone	02RE1	SW8260D	46400		3500	5000	500	ug/L
Benzene	02	SW8260D	443		20.0	50.0	50	ug/L
Ethylbenzene	02	SW8260D	158		20.0	50.0	50	ug/L
Tetrahydrofuran	02	SW8260D	7490		500	500	50	ug/L
Toluene	02	SW8260D	54.5		25.0	50.0	50	ug/L
Xylenes, Total	02	SW8260D	354		50.0	150	50	ug/L
Ammonia as N	02	EPA350.1 R2.0	1400		73.1	100	1000	mg/L
BOD	02	SM5210B-2016	16200		0.2	2.0	1	mg/L
COD	02	SM5220D-2011	23400		5000	5000	500	mg/L
TKN as N	02	EPA351.2 R2.0	1520		100	250	500	mg/L
Total Recoverable Phenolics	02	SW9065	20.8		1.50	2.50	1	mg/L

### Analysis Detects Report

 Client Name: SCS Engineers - Winchester  
 Client Site ID: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

**Laboratory Sample ID: 25B0274-03                      Client Sample ID: EW-61**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Arsenic	03	SW6020B	774	J	465	1000	1	ug/kg
Chromium	03	SW6020B	99.2		46.5	50.0	1	ug/kg
Lead	03	SW6020B	56.1		46.5	50.0	1	ug/kg
Mercury	03	SW7471B	0.110		0.009	0.009	1	mg/kg
Zinc	03	SW6020B	136		46.5	50.0	1	ug/kg
Benzene	03	SW8260D	559000		24500	24500	2500	ug/kg
Ethylbenzene	03	SW8260D	2090000		24500	24500	2500	ug/kg
Toluene	03	SW8260D	537000		24500	24500	2500	ug/kg
Xylenes, Total	03	SW8260D	4260000		24500	24500	2500	ug/kg
Ammonia as N	03	EPA350.1 R2.0	1160		199	199	20	mg/kg
TKN as N	03RE1	EPA351.2 R2.0	948		39.8	99.5	2	mg/kg
Total Recoverable Phenolics	03	SW9065	516		495	495	20	mg/kg

**Laboratory Sample ID: 25B0274-05                      Client Sample ID: EW-61**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
BOD	05	SM5210B-2016	>43418.4		0.2	2.0	1	mg/L
COD	05	SM5220D-2011	447000		100000	100000	10000	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".

## Certificate of Analysis

Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EW-50	25B0274-01	Ground Water	02/04/2025 08:10	02/05/2025 10:05
EW-85	25B0274-02	Ground Water	02/04/2025 08:55	02/05/2025 10:05
EW-61	25B0274-03	Organic	02/04/2025 09:10	02/05/2025 10:05
Trip Blank	25B0274-04	Waste Water	01/27/2025 10:10	02/05/2025 10:05
EW-61	25B0274-05	Ground Water	02/04/2025 09:10	02/05/2025 10:05

Please be advised that due to matrix interference all samples were diluted per method protocol, causing the MCLs to be exceeded.

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-50

Laboratory Sample ID: 25B0274-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	01	7440-22-4	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		0.600	10.0	10	ug/L	AB
Arsenic	01	7440-38-2	SW6020B	02/10/2025 17:00	02/11/2025 13:00	170		5.0	10	10	ug/L	AB
Barium	01	7440-39-3	SW6020B	02/10/2025 17:00	02/11/2025 13:00	633		10.0	50.0	10	ug/L	AB
Cadmium	01	7440-43-9	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		1.00	10.0	10	ug/L	AB
Chromium	01	7440-47-3	SW6020B	02/10/2025 17:00	02/11/2025 13:00	210		4.00	10.0	10	ug/L	AB
Copper	01	7440-50-8	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		3.00	10.0	10	ug/L	AB
Mercury	01	7439-97-6	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		2.00	2.00	10	ug/L	AB
Nickel	01	7440-02-0	SW6020B	02/10/2025 17:00	02/11/2025 13:00	92.75		10.00	10.00	10	ug/L	AB
Lead	01	7439-92-1	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		10	10	10	ug/L	AB
Selenium	01	7782-49-2	SW6020B	02/10/2025 17:00	02/11/2025 13:00	BLOD		8.50	10.0	10	ug/L	AB
Zinc	01	7440-66-6	SW6020B	02/10/2025 17:00	02/11/2025 13:00	40.5	J	25.0	50.0	10	ug/L	AB

**Volatile Organic Compounds by GCMS**

2-Butanone (MEK)	01	78-93-3	SW8260D	02/06/2025 18:47	02/06/2025 18:47	6930		60.0	200	20	ug/L	TLH
Acetone	01RE1	67-64-1	SW8260D	02/06/2025 19:10	02/06/2025 19:10	9820		700	1000	100	ug/L	TLH
Benzene	01	71-43-2	SW8260D	02/06/2025 18:47	02/06/2025 18:47	739		8.00	20.0	20	ug/L	TLH
Ethylbenzene	01	100-41-4	SW8260D	02/06/2025 18:47	02/06/2025 18:47	164		8.00	20.0	20	ug/L	TLH
Toluene	01	108-88-3	SW8260D	02/06/2025 18:47	02/06/2025 18:47	271		10.0	20.0	20	ug/L	TLH
Xylenes, Total	01	1330-20-7	SW8260D	02/06/2025 18:47	02/06/2025 18:47	267		20.0	60.0	20	ug/L	TLH
Tetrahydrofuran	01	109-99-9	SW8260D	02/06/2025 18:47	02/06/2025 18:47	1020		200	200	20	ug/L	TLH

Surr: 1,2-Dichloroethane-d4 (Surr)	01	98.4 %	70-120	02/06/2025 18:47	02/06/2025 18:47							
Surr: 4-Bromofluorobenzene (Surr)	01	102 %	75-120	02/06/2025 18:47	02/06/2025 18:47							
Surr: Dibromofluoromethane (Surr)	01	96.9 %	70-130	02/06/2025 18:47	02/06/2025 18:47							
Surr: Toluene-d8 (Surr)	01	100 %	70-130	02/06/2025 18:47	02/06/2025 18:47							
Surr: 1,2-Dichloroethane-d4 (Surr)	01RE1	99.7 %	70-120	02/06/2025 19:10	02/06/2025 19:10							

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

 Client Sample ID: **EW-50**

 Laboratory Sample ID: **25B0274-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Volatile Organic Compounds by GCMS</b>												
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	01RE1	104 %	75-120	02/06/2025 19:10	02/06/2025 19:10							
<i>Surr: Dibromofluoromethane (Surr)</i>	01RE1	94.0 %	70-130	02/06/2025 19:10	02/06/2025 19:10							
<i>Surr: Toluene-d8 (Surr)</i>	01RE1	97.9 %	70-130	02/06/2025 19:10	02/06/2025 19:10							
<b>Semivolatile Organic Compounds by GCMS</b>												
Anthracene	01	120-12-7	SW8270E	02/10/2025 09:30	02/12/2025 00:35	BLOD		100	200	10	ug/L	BMS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	01	69.0 %	5-136	02/10/2025 09:30	02/12/2025 00:35							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	01	43.2 %	9-117	02/10/2025 09:30	02/12/2025 00:35							
<i>Surr: 2-Fluorophenol (Surr)</i>	01	52.8 %	5-60	02/10/2025 09:30	02/12/2025 00:35							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	01	76.0 %	5-151	02/10/2025 09:30	02/12/2025 00:35							
<i>Surr: Phenol-d5 (Surr)</i>	01	33.8 %	5-60	02/10/2025 09:30	02/12/2025 00:35							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	01	41.8 %	5-141	02/10/2025 09:30	02/12/2025 00:35							

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-50

Laboratory Sample ID: 25B0274-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Wet Chemistry Analysis</b>												
Ammonia as N	01	7664-41-7	EPA350.1 R2.0	02/18/2025 14:09	02/18/2025 14:09	1300		73.1	100	1000	mg/L	MKS
BOD	01	E1640606	SM5210B-20 16	02/05/2025 17:21	02/05/2025 17:21	4420		0.2	2.0	1	mg/L	CET
COD	01	NA	SM5220D-20 11	02/17/2025 10:30	02/17/2025 10:30	3630		1000	1000	100	mg/L	CET
Nitrate as N	01	14797-55-8	Calc.	02/18/2025 11:00	02/18/2025 16:03	BLOD		1.00	5.00	100	mg/L	KJM
Nitrate+Nitrite as N	01	E701177	SM4500-NO 3F-2019	02/18/2025 11:00	02/18/2025 16:03	BLOD		0.50	0.50	5	mg/L	BKR
Nitrite as N	01	14797-65-0	SM4500-NO 2B-2021	02/05/2025 17:00	02/05/2025 17:00	BLOD		1.00	5.00	100	mg/L	KJM
<b>Total Recoverable Phenolics</b>	01	NA	SW9065	02/13/2025 16:30	02/13/2025 16:30	8.15		0.750	1.25	1	mg/L	SPH
TKN as N	01	E17148461	EPA351.2 R2.0	02/13/2025 18:16	02/13/2025 18:16	1190		100	250	500	mg/L	SPH

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-85

Laboratory Sample ID: 25B0274-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	02	7440-22-4	SW6020B	02/10/2025 17:00	02/11/2025 13:03	BLOD		0.600	10.0	10	ug/L	AB
Arsenic	02	7440-38-2	SW6020B	02/10/2025 17:00	02/11/2025 13:03	730		5.0	10	10	ug/L	AB
Barium	02	7440-39-3	SW6020B	02/10/2025 17:00	02/11/2025 13:03	1480		10.0	50.0	10	ug/L	AB
Cadmium	02	7440-43-9	SW6020B	02/10/2025 17:00	02/11/2025 13:03	10.1		1.00	10.0	10	ug/L	AB
Chromium	02	7440-47-3	SW6020B	02/10/2025 17:00	02/11/2025 13:03	196		4.00	10.0	10	ug/L	AB
Copper	02RE1	7440-50-8	SW6020B	02/12/2025 17:00	02/14/2025 12:11	3.81	J	3.00	10.0	10	ug/L	AB
Mercury	02	7439-97-6	SW6020B	02/10/2025 17:00	02/11/2025 13:03	BLOD		2.00	2.00	10	ug/L	AB
Nickel	02	7440-02-0	SW6020B	02/10/2025 17:00	02/11/2025 13:03	102.1		10.00	10.00	10	ug/L	AB
Lead	02	7439-92-1	SW6020B	02/10/2025 17:00	02/11/2025 13:03	20		10	10	10	ug/L	AB
Selenium	02	7782-49-2	SW6020B	02/10/2025 17:00	02/11/2025 13:03	BLOD		8.50	10.0	10	ug/L	AB
Zinc	02	7440-66-6	SW6020B	02/10/2025 17:00	02/11/2025 13:03	527		25.0	50.0	10	ug/L	AB

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-85

Laboratory Sample ID: 25B0274-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Volatile Organic Compounds by GCMS</b>												
2-Butanone (MEK)	02	78-93-3	SW8260D	02/06/2025 18:01	02/06/2025 18:01	23900		150	500	50	ug/L	TLH
Acetone	02RE1	67-64-1	SW8260D	02/06/2025 18:24	02/06/2025 18:24	46400		3500	5000	500	ug/L	TLH
Benzene	02	71-43-2	SW8260D	02/06/2025 18:01	02/06/2025 18:01	443		20.0	50.0	50	ug/L	TLH
Ethylbenzene	02	100-41-4	SW8260D	02/06/2025 18:01	02/06/2025 18:01	158		20.0	50.0	50	ug/L	TLH
Toluene	02	108-88-3	SW8260D	02/06/2025 18:01	02/06/2025 18:01	54.5		25.0	50.0	50	ug/L	TLH
Xylenes, Total	02	1330-20-7	SW8260D	02/06/2025 18:01	02/06/2025 18:01	354		50.0	150	50	ug/L	TLH
Tetrahydrofuran	02	109-99-9	SW8260D	02/06/2025 18:01	02/06/2025 18:01	7490		500	500	50	ug/L	TLH
Surr: 1,2-Dichloroethane-d4 (Surr)	02	95.6 %	70-120	02/06/2025 18:01	02/06/2025 18:01							
Surr: 4-Bromofluorobenzene (Surr)	02	104 %	75-120	02/06/2025 18:01	02/06/2025 18:01							
Surr: Dibromofluoromethane (Surr)	02	91.9 %	70-130	02/06/2025 18:01	02/06/2025 18:01							
Surr: Toluene-d8 (Surr)	02	100 %	70-130	02/06/2025 18:01	02/06/2025 18:01							
Surr: 1,2-Dichloroethane-d4 (Surr)	02RE1	103 %	70-120	02/06/2025 18:24	02/06/2025 18:24							
Surr: 4-Bromofluorobenzene (Surr)	02RE1	103 %	75-120	02/06/2025 18:24	02/06/2025 18:24							
Surr: Dibromofluoromethane (Surr)	02RE1	95.3 %	70-130	02/06/2025 18:24	02/06/2025 18:24							
Surr: Toluene-d8 (Surr)	02RE1	103 %	70-130	02/06/2025 18:24	02/06/2025 18:24							
<b>Semivolatile Organic Compounds by GCMS</b>												
Anthracene	02	120-12-7	SW8270E	02/10/2025 09:30	02/12/2025 01:09	BLOD		200	400	20	ug/L	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	108 %	5-136	02/10/2025 09:30	02/12/2025 01:09							
Surr: 2-Fluorobiphenyl (Surr)	02	63.6 %	9-117	02/10/2025 09:30	02/12/2025 01:09							
Surr: 2-Fluorophenol (Surr)	02	77.2 %	5-60	02/10/2025 09:30	02/12/2025 01:09							DS
Surr: Nitrobenzene-d5 (Surr)	02	537 %	5-151	02/10/2025 09:30	02/12/2025 01:09							DS
Surr: Phenol-d5 (Surr)	02	141 %	5-60	02/10/2025 09:30	02/12/2025 01:09							DS
Surr: p-Terphenyl-d14 (Surr)	02	72.4 %	5-141	02/10/2025 09:30	02/12/2025 01:09							



### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-85

Laboratory Sample ID: 25B0274-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Wet Chemistry Analysis</b>												
Ammonia as N	02	7664-41-7	EPA350.1 R2.0	02/18/2025 14:11	02/18/2025 14:11	1400		73.1	100	1000	mg/L	MKS
BOD	02	E1640606	SM5210B-20 16	02/05/2025 17:15	02/05/2025 17:15	16200		0.2	2.0	1	mg/L	CET
COD	02	NA	SM5220D-20 11	02/17/2025 10:30	02/17/2025 10:30	23400		5000	5000	500	mg/L	CET
Nitrate as N	02	14797-55-8	Calc.	02/18/2025 11:00	02/18/2025 16:04	BLOD		1.00	5.00	100	mg/L	KJM
Nitrate+Nitrite as N	02	E701177	SM4500-NO 3F-2019	02/18/2025 11:00	02/18/2025 16:04	BLOD		0.50	0.50	5	mg/L	BKR
Nitrite as N	02	14797-65-0	SM4500-NO 2B-2021	02/05/2025 17:00	02/05/2025 17:00	BLOD		1.00	5.00	100	mg/L	KJM
<b>Total Recoverable Phenolics</b>	02	NA	SW9065	02/13/2025 16:30	02/13/2025 16:30	20.8		1.50	2.50	1	mg/L	SPH
TKN as N	02	E17148461	EPA351.2 R2.0	02/13/2025 18:16	02/13/2025 18:16	1520		100	250	500	mg/L	SPH

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: EW-61

Laboratory Sample ID: 25B0274-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	03	7440-22-4	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		2.32	2.50	1	ug/kg	MDW
<b>Arsenic</b>	03	7440-38-2	SW6020B	02/07/2025 11:30	02/19/2025 14:32	774	J	465	1000	1	ug/kg	MDW
Barium	03	7440-39-3	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		465	500	1	ug/kg	MDW
Cadmium	03	7440-43-9	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		186	200	1	ug/kg	MDW
<b>Chromium</b>	03	7440-47-3	SW6020B	02/07/2025 11:30	02/19/2025 14:32	99.2		46.5	50.0	1	ug/kg	MDW
Copper	03	7440-50-8	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		46.5	50.0	1	ug/kg	MDW
<b>Mercury</b>	03	7439-97-6	SW7471B	02/13/2025 08:41	02/13/2025 13:33	0.110		0.009	0.009	1	mg/kg	NBT
Nickel	03	7440-02-0	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		46.5	50.0	1	ug/kg	MDW
<b>Lead</b>	03	7439-92-1	SW6020B	02/07/2025 11:30	02/19/2025 14:32	56.1		46.5	50.0	1	ug/kg	MDW
Selenium	03	7782-49-2	SW6020B	02/07/2025 11:30	02/19/2025 14:32	BLOD		2320	2500	1	ug/kg	MDW
<b>Zinc</b>	03	7440-66-6	SW6020B	02/07/2025 11:30	02/19/2025 14:32	136		46.5	50.0	1	ug/kg	MDW

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

 Client Sample ID: **EW-61**

 Laboratory Sample ID: **25B0274-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Volatile Organic Compounds by GCMS</b>												
2-Butanone (MEK)	03	78-93-3	SW8260D	02/10/2025 18:21	02/10/2025 18:21	BLOD		24500	24500	2500	ug/kg	TLH
Acetone	03	67-64-1	SW8260D	02/10/2025 18:21	02/10/2025 18:21	BLOD		49000	98000	2500	ug/kg	TLH
<b>Benzene</b>	03	71-43-2	SW8260D	02/10/2025 18:21	02/10/2025 18:21	559000		24500	24500	2500	ug/kg	TLH
<b>Ethylbenzene</b>	03	100-41-4	SW8260D	02/10/2025 18:21	02/10/2025 18:21	2090000		24500	24500	2500	ug/kg	TLH
<b>Toluene</b>	03	108-88-3	SW8260D	02/10/2025 18:21	02/10/2025 18:21	537000		24500	24500	2500	ug/kg	TLH
<b>Xylenes, Total</b>	03	1330-20-7	SW8260D	02/10/2025 18:21	02/10/2025 18:21	4260000		24500	24500	2500	ug/kg	TLH
Tetrahydrofuran	03	109-99-9	SW8260D	02/10/2025 18:21	02/10/2025 18:21	BLOD		24500	24500	2500	ug/kg	TLH
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	96.8 %	80-120	02/10/2025 18:21	02/10/2025 18:21							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	88.8 %	85-120	02/10/2025 18:21	02/10/2025 18:21							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	90.6 %	80-130	02/10/2025 18:21	02/10/2025 18:21							
<i>Surr: Toluene-d8 (Surr)</i>	03	107 %	85-115	02/10/2025 18:21	02/10/2025 18:21							

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

 Client Sample ID: **EW-61**

 Laboratory Sample ID: **25B0274-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Semivolatile Organic Compounds by GCMS</b>												
Anthracene	03	120-12-7	SW8270E	02/17/2025 10:35	02/19/2025 15:24	BLOD		4160	4160	50		BMS
Surr: 2,4,6-Tribromophenol (Surr)	03		% 15-96	02/17/2025 10:35	02/19/2025 15:24							DS
Surr: 2-Fluorobiphenyl (Surr)	03	8.00	% 19-105	02/17/2025 10:35	02/19/2025 15:24							DS
Surr: 2-Fluorophenol (Surr)	03	1.50	% 12-95	02/17/2025 10:35	02/19/2025 15:24							DS
Surr: Nitrobenzene-d5 (Surr)	03	29.0	% 21-100	02/17/2025 10:35	02/19/2025 15:24							DS
Surr: Phenol-d5 (Surr)	03	3.50	% 13-100	02/17/2025 10:35	02/19/2025 15:24							DS
Surr: p-Terphenyl-d14 (Surr)	03	5.50	% 25-125	02/17/2025 10:35	02/19/2025 15:24							DS

## Certificate of Analysis

Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: **EW-61**

Laboratory Sample ID: **25B0274-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Wet Chemistry Analysis</b>												
Ammonia as N	03	7664-41-7	EPA350.1 R2.0	02/18/2025 11:00	02/18/2025 16:41	1160		199	199	20	mg/kg	MKS
Total Recoverable Phenolics	03	NA	SW9065	02/13/2025 12:00	02/13/2025 16:30	516		495	495	20	mg/kg	SPH
TKN as N	03RE1	E17148461	EPA351.2 R2.0	02/18/2025 10:49	02/18/2025 10:49	948		39.8	99.5	2	mg/kg	SPH

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Client Sample ID: Trip Blank

Laboratory Sample ID: 25B0274-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Volatile Organic Compounds by GCMS</b>												
2-Butanone (MEK)	04	78-93-3	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		3.00	10.0	1	ug/L	RJB
Acetone	04	67-64-1	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		7.00	10.0	1	ug/L	RJB
Benzene	04	71-43-2	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		0.40	1.00	1	ug/L	RJB
Ethylbenzene	04	100-41-4	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	04	108-88-3	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		0.50	1.00	1	ug/L	RJB
Xylenes, Total	04	1330-20-7	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		1.00	3.00	1	ug/L	RJB
Tetrahydrofuran	04	109-99-9	SW8260D	02/07/2025 12:25	02/07/2025 12:25	BLOD		10.0	10.0	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	110 %	70-120	02/07/2025 12:25	02/07/2025 12:25							
Surr: 4-Bromofluorobenzene (Surr)	04	101 %	75-120	02/07/2025 12:25	02/07/2025 12:25							
Surr: Dibromofluoromethane (Surr)	04	108 %	70-130	02/07/2025 12:25	02/07/2025 12:25							
Surr: Toluene-d8 (Surr)	04	107 %	70-130	02/07/2025 12:25	02/07/2025 12:25							

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

 Client Sample ID: **EW-61**

 Laboratory Sample ID: **25B0274-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analys
<b>Wet Chemistry Analysis</b>												
BOD	05	E1640606	SM5210B-20 16	02/05/2025 17:20	02/05/2025 17:20	>43418.4		0.2	2.0	1	mg/L	CET
BOD	05	E1640606	SM5210B-20 16	02/05/2025 17:20	02/05/2025 17:20	>43418.4		0.2	2.0	1	mg/L	CET
COD	05	NA	SM5220D-20 11	02/19/2025 13:00	02/19/2025 13:00	447000		100000	100000	1000C	mg/L	MJRL
Nitrate as N	05	14797-55-8	Calc.	02/18/2025 11:00	02/18/2025 16:09	BLOD		10.0	50.0	1000	mg/L	KJM
Nitrate+Nitrite as N	05	E701177	SM4500-NO 3F-2019	02/18/2025 11:00	02/18/2025 16:09	BLOD		10.0	10.0	100	mg/L	BKR
Nitrite as N	05	14797-65-0	SM4500-NO 2B-2021	02/05/2025 17:00	02/05/2025 17:00	BLOD		10.0	50.0	1000	mg/L	KJM

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0259 - SW3050B-ICPMS

**Blank (BIB0259-BLK1)**

Prepared: 02/07/2025 Analyzed: 02/19/2025

Zinc	ND	50.0	ug/kg							
Barium	ND	500	ug/kg							
Cadmium	ND	200	ug/kg							
Chromium	ND	50.0	ug/kg							
Copper	ND	50.0	ug/kg							
Lead	ND	50.0	ug/kg							
Nickel	ND	50.0	ug/kg							
Selenium	ND	2500	ug/kg							
Silver	ND	2.50	ug/kg							
Arsenic	ND	1000	ug/kg							

**LCS (BIB0259-BS1)**

Prepared: 02/07/2025 Analyzed: 02/19/2025

Silver	500	2.50	ug/kg	479		104	80-120			E
Zinc	2850	50.0	ug/kg	2400		119	80-120			
Arsenic	2670	1000	ug/kg	2400		111	80-120			
Nickel	2540	50.0	ug/kg	2400		106	80-120			
Barium	2520	500	ug/kg	2400		105	80-120			
Cadmium	2680	200	ug/kg	2400		112	80-120			
Chromium	2490	50.0	ug/kg	2400		104	80-120			
Selenium	2820	2500	ug/kg	2400		118	80-120			
Lead	2680	50.0	ug/kg	2400		112	80-120			
Copper	2580	50.0	ug/kg	2400		108	80-120			

**Matrix Spike (BIB0259-MS1)**

Source: 25B0274-03

Prepared: 02/07/2025 Analyzed: 02/19/2025

Nickel	2580	50.0	ug/kg	2480	BLOD	104	75-125			
Barium	2600	500	ug/kg	2480	BLOD	105	75-125			



### Certificate of Analysis

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 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0259 - SW3050B-ICPMS

**Matrix Spike (BIB0259-MS1)**

Source: 25B0274-03

Prepared: 02/07/2025 Analyzed: 02/19/2025

Chromium	2460	50.0	ug/kg	2480	99.2	95.6	75-125			
Lead	2730	50.0	ug/kg	2480	56.1	108	75-125			
Arsenic	3590	1000	ug/kg	2480	774	114	75-125			
Selenium	3700	2500	ug/kg	2480	BLOD	149	75-125			M
Silver	509	2.50	ug/kg	495	BLOD	103	75-125			E
Zinc	3140	50.0	ug/kg	2480	136	121	75-125			
Copper	2620	50.0	ug/kg	2480	BLOD	106	75-125			
Cadmium	2780	200	ug/kg	2480	BLOD	112	75-125			

**Matrix Spike Dup (BIB0259-MSD1)**

Source: 25B0274-03

Prepared: 02/07/2025 Analyzed: 02/19/2025

Lead	3110	50.0	ug/kg	2390	56.1	128	75-125	13.1	20	M
Silver	489	2.50	ug/kg	477	BLOD	102	75-125	4.10	20	E
Zinc	3050	50.0	ug/kg	2390	136	122	75-125	2.87	20	
Nickel	2460	50.0	ug/kg	2390	BLOD	103	75-125	4.53	20	
Selenium	3660	2500	ug/kg	2390	BLOD	154	75-125	0.975	20	M
Copper	2550	50.0	ug/kg	2390	BLOD	107	75-125	2.62	20	
Chromium	2350	50.0	ug/kg	2390	99.2	94.5	75-125	4.64	20	
Cadmium	2710	200	ug/kg	2390	BLOD	114	75-125	2.80	20	
Barium	2510	500	ug/kg	2390	BLOD	105	75-125	3.43	20	
Arsenic	3600	1000	ug/kg	2390	774	119	75-125	0.283	20	

#### Batch BIB0357 - EPA200.2R2.8/SW3005A-ICPMS

**Blank (BIB0357-BLK1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	ND	0.200	ug/L							
Arsenic	ND	1.0	ug/L							

### Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0357 - EPA200.2R2.8/SW3005A-ICPMS

**Blank (BIB0357-BLK1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

Barium	ND	5.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	1.00	ug/L							
Copper	0.487	1.00	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	1.000	ug/L							
Selenium	ND	1.00	ug/L							
Silver	ND	1.00	ug/L							
Zinc	ND	5.00	ug/L							

**LCS (BIB0357-BS1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	0.958	0.200	ug/L	1.00		95.8	80-120			
Arsenic	53	1.0	ug/L	50.0		105	80-120			
Barium	53.5	5.00	ug/L	50.0		107	80-120			
Cadmium	53.7	1.00	ug/L	50.0		107	80-120			
Chromium	53.9	1.00	ug/L	50.0		108	80-120			
Copper	52.9	1.00	ug/L	50.0		106	80-120			
Lead	54	1.0	ug/L	50.0		109	80-120			
Nickel	52.90	1.000	ug/L	50.0		106	80-120			
Selenium	53.5	1.00	ug/L	50.0		107	80-120			
Silver	10.7	1.00	ug/L	10.0		107	80-120			
Zinc	53.9	5.00	ug/L	50.0		108	80-120			

**Matrix Spike (BIB0357-MS1)**

Source: 25B0521-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	0.975	0.200	ug/L	1.00	BLOD	97.5	70-130			
Arsenic	57	1.0	ug/L	50.0	5.0	103	75-125			

### Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0357 - EPA200.2R2.8/SW3005A-ICPMS

**Matrix Spike (BIB0357-MS1)**

Source: 25B0521-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Barium	185	5.00	ug/L	50.0	130	108	75-125			<i>E</i>
Cadmium	51.0	1.00	ug/L	50.0	BLOD	102	75-125			
Chromium	52.4	1.00	ug/L	50.0	BLOD	105	75-125			
Copper	57.2	1.00	ug/L	50.0	6.63	101	75-125			
Lead	51	1.0	ug/L	50.0	BLOD	102	75-125			
Nickel	51.66	1.000	ug/L	50.0	BLOD	103	75-125			
Selenium	48.7	1.00	ug/L	50.0	BLOD	97.4	75-125			
Silver	10.3	1.00	ug/L	10.0	BLOD	103	75-125			
Zinc	73.6	5.00	ug/L	50.0	25.5	96.3	75-125			

**Matrix Spike (BIB0357-MS2)**

Source: 25B0587-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	0.955	0.200	ug/L	1.00	BLOD	95.5	70-130			
Arsenic	49	1.0	ug/L	50.0	0.69	97.6	75-125			
Barium	243	5.00	ug/L	50.0	184	117	75-125			<i>E</i>
Cadmium	45.5	1.00	ug/L	50.0	0.137	90.7	75-125			
Chromium	63.1	1.00	ug/L	50.0	3.13	120	75-125			
Copper	55.0	1.00	ug/L	50.0	5.73	98.6	75-125			
Lead	48	1.0	ug/L	50.0	BLOD	96.5	75-125			
Nickel	56.46	1.000	ug/L	50.0	5.144	103	75-125			
Selenium	31.3	1.00	ug/L	50.0	BLOD	62.6	75-125			<i>M</i>
Silver	10.0	1.00	ug/L	10.0	BLOD	100	75-125			
Zinc	68.1	5.00	ug/L	50.0	26.7	82.8	75-125			

**Matrix Spike Dup (BIB0357-MSD1)**

Source: 25B0521-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	0.981	0.200	ug/L	1.00	BLOD	98.1	70-130	0.660	20	
Arsenic	56	1.0	ug/L	50.0	5.0	101	75-125	1.66	20	

### Certificate of Analysis

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 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0357 - EPA200.2R2.8/SW3005A-ICPMS

**Matrix Spike Dup (BIB0357-MSD1)**

Source: 25B0521-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Barium	182	5.00	ug/L	50.0	130	104	75-125	1.19	20	E
Cadmium	50.6	1.00	ug/L	50.0	BLOD	101	75-125	0.609	20	
Chromium	51.6	1.00	ug/L	50.0	BLOD	103	75-125	1.72	20	
Copper	56.2	1.00	ug/L	50.0	6.63	99.0	75-125	1.82	20	
Lead	51	1.0	ug/L	50.0	BLOD	102	75-125	0.383	20	
Nickel	50.06	1.000	ug/L	50.0	BLOD	100	75-125	3.14	20	
Selenium	47.2	1.00	ug/L	50.0	BLOD	94.4	75-125	3.09	20	
Silver	10.1	1.00	ug/L	10.0	BLOD	101	75-125	1.77	20	
Zinc	71.2	5.00	ug/L	50.0	25.5	91.5	75-125	3.29	20	

**Matrix Spike Dup (BIB0357-MSD2)**

Source: 25B0587-01

Prepared: 02/10/2025 Analyzed: 02/11/2025

Mercury	0.991	0.200	ug/L	1.00	BLOD	99.1	70-130	3.79	20	
Arsenic	50	1.0	ug/L	50.0	0.69	97.8	75-125	0.162	20	
Barium	244	5.00	ug/L	50.0	184	119	75-125	0.407	20	E
Cadmium	45.7	1.00	ug/L	50.0	0.137	91.1	75-125	0.446	20	
Chromium	64.7	1.00	ug/L	50.0	3.13	123	75-125	2.61	20	
Copper	56.0	1.00	ug/L	50.0	5.73	101	75-125	1.75	20	
Lead	48	1.0	ug/L	50.0	BLOD	96.5	75-125	0.0275	20	
Nickel	56.91	1.000	ug/L	50.0	5.144	104	75-125	0.798	20	
Selenium	31.5	1.00	ug/L	50.0	BLOD	63.0	75-125	0.667	20	M
Silver	9.90	1.00	ug/L	10.0	BLOD	99.0	75-125	1.16	20	
Zinc	68.9	5.00	ug/L	50.0	26.7	84.3	75-125	1.05	20	

#### Batch BIB0465 - EPA200.2R2.8/SW3005A-ICPMS

**Blank (BIB0465-BLK1)**

Prepared: 02/12/2025 Analyzed: 02/14/2025

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0465 - EPA200.2R2.8/SW3005A-ICPMS</b>										
<b>Blank (BIB0465-BLK1)</b>				Prepared: 02/12/2025 Analyzed: 02/14/2025						
Copper	ND	1.00	ug/L							
<b>LCS (BIB0465-BS1)</b>				Prepared: 02/12/2025 Analyzed: 02/14/2025						
Copper	48.4	1.00	ug/L	50.0		96.8	80-120			
<b>Matrix Spike (BIB0465-MS1)</b>				Source: 25B0720-01 Prepared: 02/12/2025 Analyzed: 02/14/2025						
Copper	50.2	1.00	ug/L	50.0	3.60	93.2	75-125			
<b>Matrix Spike Dup (BIB0465-MSD1)</b>				Source: 25B0720-01 Prepared: 02/12/2025 Analyzed: 02/14/2025						
Copper	51.4	1.00	ug/L	50.0	3.60	95.6	75-125	2.43	20	
<b>Batch BIB0498 - SW7471B</b>										
<b>Blank (BIB0498-BLK1)</b>				Prepared & Analyzed: 02/13/2025						
Mercury	ND	0.009	mg/kg							
<b>LCS (BIB0498-BS1)</b>				Prepared & Analyzed: 02/13/2025						
Mercury	0.092	0.009	mg/kg	0.0935		98.4	80-120			
<b>Matrix Spike (BIB0498-MS1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/13/2025						
Mercury	0.155	0.009	mg/kg	0.0998	0.110	44.4	80-120			M
<b>Matrix Spike Dup (BIB0498-MSD1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/13/2025						
Mercury	0.180	0.009	mg/kg	0.0998	0.110	70.1	80-120	15.3	20	M

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**Blank (BIB0204-BLK1)**

Prepared &amp; Analyzed: 02/06/2025

2-Butanone (MEK)	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
Xylenes, Total	ND	3.00	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	49.0		ug/L	50.0		98.1	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.0		ug/L	50.0		102	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.2		ug/L	50.0		92.4	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.8		ug/L	50.0		99.6	70-130			

**LCS (BIB0204-BS1)**

Prepared &amp; Analyzed: 02/06/2025

1,1,1,2-Tetrachloroethane	56.1		ug/L	50.0		112	80-130			
1,1,1-Trichloroethane	46.0		ug/L	50.0		92.0	65-130			
1,1,2,2-Tetrachloroethane	52.8		ug/L	50.0		106	65-130			
1,1,2-Trichloroethane	50.7		ug/L	50.0		101	75-125			
1,1-Dichloroethane	43.4		ug/L	50.0		86.8	70-135			
1,1-Dichloroethylene	38.7		ug/L	50.0		77.3	70-130			
1,1-Dichloropropene	44.6		ug/L	50.0		89.3	75-135			
1,2,3-Trichlorobenzene	46.1		ug/L	50.0		92.2	55-140			
1,2,3-Trichloropropane	49.5		ug/L	50.0		99.0	75-125			
1,2,4-Trichlorobenzene	45.6		ug/L	50.0		91.3	65-135			
1,2,4-Trimethylbenzene	48.9		ug/L	50.0		97.9	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	41.6		ug/L	50.0		83.2	50-130			
1,2-Dibromoethane (EDB)	49.1		ug/L	50.0		98.3	80-120			

### Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**LCS (BIB0204-BS1)**

Prepared &amp; Analyzed: 02/06/2025

1,2-Dichlorobenzene	50.5		ug/L	50.0		101	70-120			
1,2-Dichloroethane	42.0		ug/L	50.0		84.0	70-130			
1,2-Dichloropropane	47.7		ug/L	50.0		95.4	75-125			
1,3,5-Trimethylbenzene	47.7		ug/L	50.0		95.4	75-125			
1,3-Dichlorobenzene	50.0		ug/L	50.0		100	75-125			
1,3-Dichloropropane	51.3		ug/L	50.0		103	75-125			
1,4-Dichlorobenzene	48.6		ug/L	50.0		97.1	75-125			
2,2-Dichloropropane	47.4		ug/L	50.0		94.8	70-135			
2-Butanone (MEK)	37.0		ug/L	50.0		73.9	30-150			
2-Chlorotoluene	47.6		ug/L	50.0		95.2	75-125			
2-Hexanone (MBK)	48.4		ug/L	50.0		96.8	55-130			
4-Chlorotoluene	47.5		ug/L	50.0		95.0	75-130			
4-Isopropyltoluene	52.4		ug/L	50.0		105	75-130			
4-Methyl-2-pentanone (MIBK)	46.4		ug/L	50.0		92.8	60-135			
Acetone	37.3		ug/L	50.0		74.6	40-140			
Benzene	47.0		ug/L	50.0		94.1	80-120			
Bromobenzene	52.5		ug/L	50.0		105	75-125			
Bromochloromethane	45.2		ug/L	50.0		90.4	65-130			
Bromodichloromethane	49.3		ug/L	50.0		98.5	75-120			
Bromoform	43.0		ug/L	50.0		85.9	70-130			
Bromomethane	59.4		ug/L	50.0		119	30-145			
Carbon disulfide	31.4		ug/L	50.0		62.8	35-160			
Carbon tetrachloride	48.8		ug/L	50.0		97.6	65-140			
Chlorobenzene	49.3		ug/L	50.0		98.6	80-120			
Chloroethane	45.3		ug/L	50.0		90.6	60-135			

### Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**LCS (BIB0204-BS1)**

Prepared &amp; Analyzed: 02/06/2025

Chloroform	43.6		ug/L	50.0		87.2	65-135			
Chloromethane	48.4		ug/L	50.0		96.9	40-125			
cis-1,2-Dichloroethylene	44.1		ug/L	50.0		88.2	70-125			
cis-1,3-Dichloropropene	50.9		ug/L	50.0		102	70-130			
Dibromochloromethane	58.5		ug/L	50.0		117	60-135			
Dibromomethane	45.4		ug/L	50.0		90.7	75-125			
Dichlorodifluoromethane	57.3		ug/L	50.0		115	30-155			
Ethylbenzene	50.8		ug/L	50.0		102	75-125			
Hexachlorobutadiene	48.2		ug/L	50.0		96.4	50-140			
Isopropylbenzene	46.9		ug/L	50.0		93.7	75-125			
m+p-Xylenes	100		ug/L	100		100	75-130			
Methylene chloride	44.0		ug/L	50.0		88.1	55-140			
Methyl-t-butyl ether (MTBE)	45.1		ug/L	50.0		90.1	65-125			
Naphthalene	41.4		ug/L	50.0		82.7	55-140			
n-Butylbenzene	51.2		ug/L	50.0		102	70-135			
n-Propylbenzene	48.6		ug/L	50.0		97.2	70-130			
o-Xylene	49.9		ug/L	50.0		99.8	80-120			
sec-Butylbenzene	52.1		ug/L	50.0		104	70-125			
Styrene	50.7		ug/L	50.0		101	65-135			
tert-Butylbenzene	50.0		ug/L	50.0		100	70-130			
Tetrachloroethylene (PCE)	69.6		ug/L	50.0		139	45-150			
Toluene	47.1		ug/L	50.0		94.1	75-120			
trans-1,2-Dichloroethylene	40.1		ug/L	50.0		80.2	60-140			
trans-1,3-Dichloropropene	43.9		ug/L	50.0		87.7	55-140			
Trichloroethylene	46.5		ug/L	50.0		93.0	70-125			



### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
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 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**LCS (BIB0204-BS1)**

Prepared &amp; Analyzed: 02/06/2025

Trichlorofluoromethane	50.0		ug/L	50.0		99.9	60-145			
Vinyl chloride	52.0		ug/L	50.0		104	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.4</i>		ug/L	<i>50.0</i>		<i>96.7</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>51.3</i>		ug/L	<i>50.0</i>		<i>103</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>47.2</i>		ug/L	<i>50.0</i>		<i>94.4</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>51.4</i>		ug/L	<i>50.0</i>		<i>103</i>	<i>70-130</i>			

**Matrix Spike (BIB0204-MS1)**

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

1,1,1,2-Tetrachloroethane	60.1		ug/L	50.0	BLOD	120	80-130			
1,1,1-Trichloroethane	48.0		ug/L	50.0	BLOD	95.9	65-130			
1,1,2,2-Tetrachloroethane	55.4		ug/L	50.0	BLOD	111	65-130			
1,1,2-Trichloroethane	55.0		ug/L	50.0	BLOD	110	75-125			
1,1-Dichloroethane	44.7		ug/L	50.0	BLOD	89.4	70-135			
1,1-Dichloroethylene	41.3		ug/L	50.0	BLOD	82.6	50-145			
1,1-Dichloropropene	46.9		ug/L	50.0	BLOD	93.8	75-135			
1,2,3-Trichlorobenzene	48.1		ug/L	50.0	BLOD	96.3	55-140			
1,2,3-Trichloropropane	54.8		ug/L	50.0	BLOD	110	75-125			
1,2,4-Trichlorobenzene	47.8		ug/L	50.0	BLOD	95.7	65-135			
1,2,4-Trimethylbenzene	50.3		ug/L	50.0	BLOD	101	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	43.5		ug/L	50.0	BLOD	86.9	50-130			
1,2-Dibromoethane (EDB)	53.1		ug/L	50.0	BLOD	106	80-120			
1,2-Dichlorobenzene	52.4		ug/L	50.0	BLOD	105	70-120			
1,2-Dichloroethane	43.9		ug/L	50.0	BLOD	87.7	70-130			
1,2-Dichloropropane	52.3		ug/L	50.0	BLOD	105	75-125			
1,3,5-Trimethylbenzene	50.2		ug/L	50.0	BLOD	100	75-124			

## Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0204 - SW5030B-MS

**Matrix Spike (BIB0204-MS1)**

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

1,3-Dichlorobenzene	51.6		ug/L	50.0	BLOD	103	75-125			
1,3-Dichloropropane	54.5		ug/L	50.0	BLOD	109	75-125			
1,4-Dichlorobenzene	49.7		ug/L	50.0	BLOD	99.4	75-125			
2,2-Dichloropropane	49.0		ug/L	50.0	BLOD	98.1	70-135			
2-Butanone (MEK)	37.6		ug/L	50.0	BLOD	75.2	30-150			
2-Chlorotoluene	49.0		ug/L	50.0	BLOD	97.9	75-125			
2-Hexanone (MBK)	51.6		ug/L	50.0	BLOD	103	55-130			
4-Chlorotoluene	48.8		ug/L	50.0	BLOD	97.7	75-130			
4-Isopropyltoluene	54.1		ug/L	50.0	BLOD	108	75-130			
4-Methyl-2-pentanone (MIBK)	50.9		ug/L	50.0	BLOD	102	60-135			
Acetone	39.4		ug/L	50.0	BLOD	75.5	40-140			
Benzene	49.5		ug/L	50.0	BLOD	99.1	80-120			
Bromobenzene	57.3		ug/L	50.0	BLOD	115	75-125			
Bromochloromethane	45.5		ug/L	50.0	BLOD	91.0	65-130			
Bromodichloromethane	54.7		ug/L	50.0	BLOD	109	75-136			
Bromoform	45.8		ug/L	50.0	BLOD	91.5	70-130			
Bromomethane	61.6		ug/L	50.0	BLOD	123	30-145			
Carbon disulfide	32.8		ug/L	50.0	BLOD	65.6	35-160			
Carbon tetrachloride	53.2		ug/L	50.0	BLOD	106	65-140			
Chlorobenzene	51.5		ug/L	50.0	BLOD	103	80-120			
Chloroethane	48.2		ug/L	50.0	BLOD	96.5	60-135			
Chloroform	44.6		ug/L	50.0	BLOD	89.2	65-135			
Chloromethane	51.2		ug/L	50.0	BLOD	102	40-125			
cis-1,2-Dichloroethylene	45.8		ug/L	50.0	BLOD	91.5	70-125			
cis-1,3-Dichloropropene	56.5		ug/L	50.0	BLOD	113	47-136			

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Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**Matrix Spike (BIB0204-MS1)**

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

Dibromochloromethane	61.7		ug/L	50.0	BLOD	123	60-135			
Dibromomethane	48.2		ug/L	50.0	BLOD	96.4	75-125			
Dichlorodifluoromethane	59.3		ug/L	50.0	BLOD	119	30-155			
Ethylbenzene	53.0		ug/L	50.0	BLOD	106	75-125			
Hexachlorobutadiene	52.0		ug/L	50.0	BLOD	104	50-140			
Isopropylbenzene	50.3		ug/L	50.0	BLOD	101	75-125			
m+p-Xylenes	105		ug/L	100	BLOD	105	75-130			
Methylene chloride	43.6		ug/L	50.0	BLOD	87.3	55-140			
Methyl-t-butyl ether (MTBE)	45.1		ug/L	50.0	BLOD	90.3	65-125			
Naphthalene	43.6		ug/L	50.0	BLOD	87.1	55-140			
n-Butylbenzene	52.9		ug/L	50.0	BLOD	106	70-135			
n-Propylbenzene	49.7		ug/L	50.0	BLOD	99.4	70-130			
o-Xylene	53.5		ug/L	50.0	BLOD	107	80-120			
sec-Butylbenzene	54.2		ug/L	50.0	BLOD	108	70-125			
Styrene	53.8		ug/L	50.0	BLOD	108	65-135			
tert-Butylbenzene	51.4		ug/L	50.0	BLOD	103	70-130			
Tetrachloroethylene (PCE)	75.8		ug/L	50.0	BLOD	152	51-231			
Toluene	50.1		ug/L	50.0	BLOD	100	75-120			
trans-1,2-Dichloroethylene	42.4		ug/L	50.0	BLOD	84.9	60-140			
trans-1,3-Dichloropropene	47.9		ug/L	50.0	BLOD	95.7	55-140			
Trichloroethylene	51.0		ug/L	50.0	BLOD	102	70-125			
Trichlorofluoromethane	53.6		ug/L	50.0	BLOD	107	60-145			
Vinyl chloride	52.3		ug/L	50.0	BLOD	105	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.6		ug/L	50.0		93.2	70-120			

### Certificate of Analysis

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Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

**Matrix Spike (BIB0204-MS1)**

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

Surr: 4-Bromofluorobenzene (Surr)	51.7	ug/L	50.0	103	75-120
Surr: Dibromofluoromethane (Surr)	46.6	ug/L	50.0	93.3	70-130
Surr: Toluene-d8 (Surr)	52.8	ug/L	50.0	106	70-130

**Matrix Spike Dup (BIB0204-MSD1)**

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

1,1,1,2-Tetrachloroethane	59.8	ug/L	50.0	BLOD	120	80-130	0.433	30
1,1,1-Trichloroethane	46.9	ug/L	50.0	BLOD	93.8	65-130	2.28	30
1,1,1,2,2-Tetrachloroethane	60.2	ug/L	50.0	BLOD	120	65-130	8.15	30
1,1,2-Trichloroethane	54.7	ug/L	50.0	BLOD	109	75-125	0.529	30
1,1-Dichloroethane	43.6	ug/L	50.0	BLOD	87.3	70-135	2.36	30
1,1-Dichloroethylene	38.9	ug/L	50.0	BLOD	77.7	50-145	6.06	30
1,1-Dichloropropene	46.2	ug/L	50.0	BLOD	92.4	75-135	1.55	30
1,2,3-Trichlorobenzene	49.3	ug/L	50.0	BLOD	98.6	55-140	2.36	30
1,2,3-Trichloropropane	58.7	ug/L	50.0	BLOD	117	75-125	7.03	30
1,2,4-Trichlorobenzene	48.9	ug/L	50.0	BLOD	97.8	65-135	2.23	30
1,2,4-Trimethylbenzene	50.2	ug/L	50.0	BLOD	100	75-130	0.239	30
1,2-Dibromo-3-chloropropane (DBCP)	52.3	ug/L	50.0	BLOD	105	50-130	18.4	30
1,2-Dibromoethane (EDB)	54.9	ug/L	50.0	BLOD	110	80-120	3.44	30
1,2-Dichlorobenzene	51.8	ug/L	50.0	BLOD	104	70-120	1.08	30
1,2-Dichloroethane	45.0	ug/L	50.0	BLOD	90.0	70-130	2.54	30
1,2-Dichloropropane	52.9	ug/L	50.0	BLOD	106	75-125	1.20	30
1,3,5-Trimethylbenzene	49.9	ug/L	50.0	BLOD	99.8	75-124	0.659	30
1,3-Dichlorobenzene	51.8	ug/L	50.0	BLOD	104	75-125	0.425	30
1,3-Dichloropropane	56.0	ug/L	50.0	BLOD	112	75-125	2.82	30
1,4-Dichlorobenzene	49.7	ug/L	50.0	BLOD	99.4	75-125	0.0201	30

### Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

Matrix Spike Dup (BIB0204-MSD1)

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

2,2-Dichloropropane	48.3		ug/L	50.0	BLOD	96.6	70-135	1.48	30	
2-Butanone (MEK)	39.2		ug/L	50.0	BLOD	78.4	30-150	4.17	30	
2-Chlorotoluene	48.1		ug/L	50.0	BLOD	96.3	75-125	1.69	30	
2-Hexanone (MBK)	57.4		ug/L	50.0	BLOD	115	55-130	10.5	30	
4-Chlorotoluene	48.4		ug/L	50.0	BLOD	96.9	75-130	0.822	30	
4-Isopropyltoluene	53.8		ug/L	50.0	BLOD	108	75-130	0.556	30	
4-Methyl-2-pentanone (MIBK)	56.0		ug/L	50.0	BLOD	112	60-135	9.64	30	
Acetone	41.7		ug/L	50.0	BLOD	80.1	40-140	5.67	30	
Benzene	49.0		ug/L	50.0	BLOD	97.9	80-120	1.20	30	
Bromobenzene	56.1		ug/L	50.0	BLOD	112	75-125	2.15	30	
Bromochloromethane	47.6		ug/L	50.0	BLOD	95.3	65-130	4.57	30	
Bromodichloromethane	54.1		ug/L	50.0	BLOD	108	75-136	1.07	30	
Bromoform	48.3		ug/L	50.0	BLOD	96.6	70-130	5.36	30	
Bromomethane	57.3		ug/L	50.0	BLOD	115	30-145	7.17	30	
Carbon disulfide	31.0		ug/L	50.0	BLOD	62.0	35-160	5.58	30	
Carbon tetrachloride	51.2		ug/L	50.0	BLOD	102	65-140	3.81	30	
Chlorobenzene	51.1		ug/L	50.0	BLOD	102	80-120	0.877	30	
Chloroethane	44.3		ug/L	50.0	BLOD	88.7	60-135	8.45	30	
Chloroform	44.9		ug/L	50.0	BLOD	89.8	65-135	0.648	30	
Chloromethane	47.1		ug/L	50.0	BLOD	94.2	40-125	8.30	30	
cis-1,2-Dichloroethylene	45.8		ug/L	50.0	BLOD	91.7	70-125	0.175	30	
cis-1,3-Dichloropropene	57.0		ug/L	50.0	BLOD	114	47-136	0.933	30	
Dibromochloromethane	63.5		ug/L	50.0	BLOD	127	60-135	2.94	30	
Dibromomethane	49.6		ug/L	50.0	BLOD	99.1	75-125	2.80	30	
Dichlorodifluoromethane	53.7		ug/L	50.0	BLOD	107	30-155	9.94	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0204 - SW5030B-MS

Matrix Spike Dup (BIB0204-MSD1)

Source: 25B0332-01

Prepared &amp; Analyzed: 02/06/2025

Ethylbenzene	53.1		ug/L	50.0	BLOD	106	75-125	0.151	30	
Hexachlorobutadiene	51.6		ug/L	50.0	BLOD	103	50-140	0.869	30	
Isopropylbenzene	50.3		ug/L	50.0	BLOD	101	75-125	0.00	30	
m+p-Xylenes	104		ug/L	100	BLOD	104	75-130	0.516	30	
Methylene chloride	42.6		ug/L	50.0	BLOD	85.3	55-140	2.36	30	
Methyl-t-butyl ether (MTBE)	46.4		ug/L	50.0	BLOD	92.9	65-125	2.82	30	
Naphthalene	46.6		ug/L	50.0	BLOD	93.1	55-140	6.66	30	
n-Butylbenzene	53.5		ug/L	50.0	BLOD	107	70-135	1.13	30	
n-Propylbenzene	49.8		ug/L	50.0	BLOD	99.7	70-130	0.301	30	
o-Xylene	52.8		ug/L	50.0	BLOD	106	80-120	1.39	30	
sec-Butylbenzene	53.9		ug/L	50.0	BLOD	108	70-125	0.573	30	
Styrene	54.4		ug/L	50.0	BLOD	109	65-135	1.07	30	
tert-Butylbenzene	51.0		ug/L	50.0	BLOD	102	70-130	0.821	30	
Tetrachloroethylene (PCE)	75.2		ug/L	50.0	BLOD	150	51-231	0.861	30	
Toluene	49.8		ug/L	50.0	BLOD	99.6	75-120	0.541	30	
trans-1,2-Dichloroethylene	39.8		ug/L	50.0	BLOD	79.6	60-140	6.47	30	
trans-1,3-Dichloropropene	49.0		ug/L	50.0	BLOD	97.9	55-140	2.25	30	
Trichloroethylene	49.6		ug/L	50.0	BLOD	99.3	70-125	2.66	30	
Trichlorofluoromethane	49.2		ug/L	50.0	BLOD	98.3	60-145	8.60	30	
Vinyl chloride	49.0		ug/L	50.0	BLOD	98.0	50-145	6.51	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>47.9</i>		<i>ug/L</i>	<i>50.0</i>		<i>95.7</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>52.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>105</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>45.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>91.2</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>52.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>			

## Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0293 - SW5030B-MS

**Blank (BIB0293-BLK1)**

Prepared &amp; Analyzed: 02/07/2025

2-Butanone (MEK)	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
Xylenes, Total	ND	3.00	ug/L							
Tetrahydrofuran	ND	10.0	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	57.4		ug/L	50.0		115	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.5		ug/L	50.0		101	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	54.1		ug/L	50.0		108	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	53.6		ug/L	50.0		107	70-130			

**LCS (BIB0293-BS1)**

Prepared &amp; Analyzed: 02/07/2025

1,1,1,2-Tetrachloroethane	35.5		ug/L	50.0		71.1	80-130			L
1,1,1-Trichloroethane	50.7		ug/L	50.0		101	65-130			
1,1,2,2-Tetrachloroethane	42.1		ug/L	50.0		84.2	65-130			
1,1,2-Trichloroethane	51.0		ug/L	50.0		102	75-125			
1,1-Dichloroethane	49.6		ug/L	50.0		99.3	70-135			
1,1-Dichloroethylene	47.6		ug/L	50.0		95.2	70-130			
1,1-Dichloropropene	52.6		ug/L	50.0		105	75-135			
1,2,3-Trichlorobenzene	35.9		ug/L	50.0		71.8	55-140			
1,2,3-Trichloropropane	41.0		ug/L	50.0		82.0	75-125			
1,2,4-Trichlorobenzene	38.3		ug/L	50.0		76.7	65-135			
1,2,4-Trimethylbenzene	49.5		ug/L	50.0		99.0	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	37.0		ug/L	50.0		73.9	50-130			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**LCS (BIB0293-BS1)**

Prepared &amp; Analyzed: 02/07/2025

1,2-Dibromoethane (EDB)	39.6		ug/L	50.0		79.1	80-120			L
1,2-Dichlorobenzene	47.2		ug/L	50.0		94.3	70-120			
1,2-Dichloroethane	41.8		ug/L	50.0		83.5	70-130			
1,2-Dichloropropane	46.2		ug/L	50.0		92.5	75-125			
1,3,5-Trimethylbenzene	48.8		ug/L	50.0		97.7	75-125			
1,3-Dichlorobenzene	49.1		ug/L	50.0		98.2	75-125			
1,3-Dichloropropane	52.0		ug/L	50.0		104	75-125			
1,4-Dichlorobenzene	47.0		ug/L	50.0		94.0	75-125			
2,2-Dichloropropane	53.8		ug/L	50.0		108	70-135			
2-Butanone (MEK)	39.1		ug/L	50.0		78.3	30-150			
2-Chlorotoluene	49.7		ug/L	50.0		99.4	75-125			
2-Hexanone (MBK)	29.2		ug/L	50.0		58.4	55-130			
4-Chlorotoluene	48.8		ug/L	50.0		97.5	75-130			
4-Isopropyltoluene	53.2		ug/L	50.0		106	75-130			
4-Methyl-2-pentanone (MIBK)	34.5		ug/L	50.0		69.0	60-135			
Acetone	42.2		ug/L	50.0		84.3	40-140			
Benzene	47.7		ug/L	50.0		95.4	80-120			
Bromobenzene	40.3		ug/L	50.0		80.6	75-125			
Bromochloromethane	48.9		ug/L	50.0		97.7	65-130			
Bromodichloromethane	49.2		ug/L	50.0		98.3	75-120			
Bromoform	32.4		ug/L	50.0		64.8	70-130			L
Bromomethane	52.5		ug/L	50.0		105	30-145			
Carbon disulfide	33.8		ug/L	50.0		67.7	35-160			
Carbon tetrachloride	52.3		ug/L	50.0		105	65-140			
Chlorobenzene	40.8		ug/L	50.0		81.6	80-120			



### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**LCS (BIB0293-BS1)**

Prepared &amp; Analyzed: 02/07/2025

Chloroethane	55.6		ug/L	50.0		111	60-135			
Chloroform	46.1		ug/L	50.0		92.2	65-135			
Chloromethane	55.7		ug/L	50.0		111	40-125			
cis-1,2-Dichloroethylene	47.4		ug/L	50.0		94.7	70-125			
cis-1,3-Dichloropropene	53.5		ug/L	50.0		107	70-130			
Dibromochloromethane	44.3		ug/L	50.0		88.7	60-135			
Dibromomethane	46.3		ug/L	50.0		92.6	75-125			
Dichlorodifluoromethane	65.2		ug/L	50.0		130	30-155			
Ethylbenzene	40.9		ug/L	50.0		81.8	75-125			
Hexachlorobutadiene	49.9		ug/L	50.0		99.8	50-140			
Isopropylbenzene	37.6		ug/L	50.0		75.3	75-125			
m+p-Xylenes	84.9		ug/L	100		84.9	75-130			
Methylene chloride	44.1		ug/L	50.0		88.1	55-140			
Methyl-t-butyl ether (MTBE)	47.9		ug/L	50.0		95.8	65-125			
Naphthalene	33.9		ug/L	50.0		67.8	55-140			
n-Butylbenzene	54.4		ug/L	50.0		109	70-135			
n-Propylbenzene	51.1		ug/L	50.0		102	70-130			
o-Xylene	41.6		ug/L	50.0		83.2	80-120			
sec-Butylbenzene	56.0		ug/L	50.0		112	70-125			
Styrene	41.4		ug/L	50.0		82.8	65-135			
tert-Butylbenzene	51.6		ug/L	50.0		103	70-130			
Tetrachloroethylene (PCE)	62.6		ug/L	50.0		125	45-150			
Toluene	48.0		ug/L	50.0		96.0	75-120			
trans-1,2-Dichloroethylene	45.0		ug/L	50.0		90.0	60-140			
trans-1,3-Dichloropropene	45.4		ug/L	50.0		90.9	55-140			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**LCS (BIB0293-BS1)**

Prepared &amp; Analyzed: 02/07/2025

Trichloroethylene	49.0		ug/L	50.0		98.0	70-125			
Trichlorofluoromethane	60.0		ug/L	50.0		120	60-145			
Vinyl chloride	61.9		ug/L	50.0		124	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>51.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>104</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>43.5</i>		<i>ug/L</i>	<i>50.0</i>		<i>87.0</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>52.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>52.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>			

**Duplicate (BIB0293-DUP1)**

Source: 25B0321-01

Prepared &amp; Analyzed: 02/07/2025

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dibromoethane (EDB)	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	ND	0.50	ug/L		BLOD			NA	30	
1,2-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	ND	0.50	ug/L		BLOD			NA	30	

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0293 - SW5030B-MS

Duplicate (BIB0293-DUP1)

Source: 25B0321-01

Prepared &amp; Analyzed: 02/07/2025

1,3,5-Trimethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
2,2-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	10.0	ug/L		BLOD			NA	30	
2-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	5.00	ug/L		BLOD			NA	30	
4-Chlorotoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Isopropyltoluene	ND	1.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L		BLOD			NA	30	
Acetone	ND	10.0	ug/L		BLOD			NA	30	
Benzene	ND	1.00	ug/L		BLOD			NA	30	
Bromobenzene	ND	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	ND	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	0.50	ug/L		BLOD			NA	30	
Bromoform	ND	1.00	ug/L		BLOD			NA	30	
Bromomethane	ND	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	ND	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
Chloroethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroform	6.30	0.50	ug/L		6.23			1.12	30	
Chloromethane	ND	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**Duplicate (BIB0293-DUP1)**
**Source: 25B0321-01**
**Prepared & Analyzed: 02/07/2025**

cis-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	0.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Di-isopropyl ether (DIPE)	ND	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Hexachlorobutadiene	ND	0.80	ug/L		BLOD			NA	30	
Iodomethane	ND	10.0	ug/L		BLOD			NA	30	
Isopropylbenzene	ND	1.00	ug/L		BLOD			NA	30	
m+p-Xylenes	ND	2.00	ug/L		BLOD			NA	30	
Methylene chloride	ND	4.00	ug/L		BLOD			NA	30	
Methyl-t-butyl ether (MTBE)	ND	1.00	ug/L		BLOD			NA	30	
Naphthalene	ND	1.00	ug/L		BLOD			NA	30	
n-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
n-Propylbenzene	ND	1.00	ug/L		BLOD			NA	30	
o-Xylene	ND	1.00	ug/L		BLOD			NA	30	
sec-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Styrene	ND	1.00	ug/L		BLOD			NA	30	
tert-Butylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	ND	1.00	ug/L		BLOD			NA	30	
Toluene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Trichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	ND	1.00	ug/L		BLOD			NA	30	

### Certificate of Analysis

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 Submitted To: Jennifer Robb

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Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**Duplicate (BIB0293-DUP1)**

Source: 25B0321-01

Prepared &amp; Analyzed: 02/07/2025

Vinyl acetate	ND	10.0	ug/L	50.0	BLOD	112	70-120	NA	30	
Vinyl chloride	ND	0.50	ug/L	50.0	BLOD	99.6	75-120	NA	30	
Xylenes, Total	ND	3.00	ug/L	50.0	BLOD	109	70-130	NA	30	
Tetrahydrofuran	ND	10.0	ug/L	50.0	BLOD	109	70-130	NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	55.8		ug/L	50.0		112	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.8		ug/L	50.0		99.6	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	54.7		ug/L	50.0		109	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	54.3		ug/L	50.0		109	70-130			

**Matrix Spike (BIB0293-MS1)**

Source: 25B0417-01

Prepared &amp; Analyzed: 02/07/2025

1,1,1,2-Tetrachloroethane	44.7		ug/L	50.0	BLOD	89.4	80-130			
1,1,1-Trichloroethane	53.4		ug/L	50.0	BLOD	107	65-130			
1,1,2,2-Tetrachloroethane	52.5		ug/L	50.0	BLOD	105	65-130			
1,1,2-Trichloroethane	54.2		ug/L	50.0	BLOD	108	75-125			
1,1-Dichloroethane	50.9		ug/L	50.0	BLOD	102	70-135			
1,1-Dichloroethylene	51.0		ug/L	50.0	BLOD	102	50-145			
1,1-Dichloropropene	56.2		ug/L	50.0	BLOD	112	75-135			
1,2,3-Trichlorobenzene	37.6		ug/L	50.0	BLOD	75.2	55-140			
1,2,3-Trichloropropane	51.7		ug/L	50.0	BLOD	103	75-125			
1,2,4-Trichlorobenzene	39.7		ug/L	50.0	BLOD	79.3	65-135			
1,2,4-Trimethylbenzene	51.5		ug/L	50.0	BLOD	103	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	38.6		ug/L	50.0	BLOD	77.1	50-130			
1,2-Dibromoethane (EDB)	49.0		ug/L	50.0	BLOD	98.0	80-120			
1,2-Dichlorobenzene	48.7		ug/L	50.0	BLOD	97.3	70-120			
1,2-Dichloroethane	43.4		ug/L	50.0	BLOD	86.8	70-130			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

**Matrix Spike (BIB0293-MS1)**

Source: 25B0417-01

Prepared &amp; Analyzed: 02/07/2025

1,2-Dichloropropane	48.4		ug/L	50.0	BLOD	96.8	75-125			
1,3,5-Trimethylbenzene	51.0		ug/L	50.0	BLOD	102	75-124			
1,3-Dichlorobenzene	51.0		ug/L	50.0	BLOD	102	75-125			
1,3-Dichloropropane	53.4		ug/L	50.0	BLOD	107	75-125			
1,4-Dichlorobenzene	48.4		ug/L	50.0	BLOD	96.7	75-125			
2,2-Dichloropropane	58.2		ug/L	50.0	BLOD	116	70-135			
2-Butanone (MEK)	37.8		ug/L	50.0	BLOD	75.7	30-150			
2-Chlorotoluene	52.5		ug/L	50.0	BLOD	105	75-125			
2-Hexanone (MBK)	33.6		ug/L	50.0	BLOD	67.3	55-130			
4-Chlorotoluene	52.0		ug/L	50.0	BLOD	104	75-130			
4-Isopropyltoluene	54.6		ug/L	50.0	BLOD	109	75-130			
4-Methyl-2-pentanone (MIBK)	35.3		ug/L	50.0	BLOD	70.5	60-135			
Acetone	43.8		ug/L	50.0	BLOD	87.5	40-140			
Benzene	50.0		ug/L	50.0	BLOD	99.9	80-120			
Bromobenzene	50.0		ug/L	50.0	BLOD	100	75-125			
Bromochloromethane	52.0		ug/L	50.0	BLOD	104	65-130			
Bromodichloromethane	51.6		ug/L	50.0	BLOD	103	75-136			
Bromoform	40.6		ug/L	50.0	BLOD	81.3	70-130			
Bromomethane	57.8		ug/L	50.0	BLOD	116	30-145			
Carbon disulfide	40.2		ug/L	50.0	BLOD	80.3	35-160			
Carbon tetrachloride	55.0		ug/L	50.0	BLOD	110	65-140			
Chlorobenzene	51.0		ug/L	50.0	BLOD	102	80-120			
Chloroethane	58.8		ug/L	50.0	BLOD	118	60-135			
Chloroform	48.4		ug/L	50.0	BLOD	96.9	65-135			
Chloromethane	59.4		ug/L	50.0	BLOD	119	40-125			

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0293 - SW5030B-MS

**Matrix Spike (BIB0293-MS1)**

Source: 25B0417-01

Prepared &amp; Analyzed: 02/07/2025

cis-1,2-Dichloroethylene	50.1		ug/L	50.0	BLOD	100	70-125			
cis-1,3-Dichloropropene	54.3		ug/L	50.0	BLOD	109	47-136			
Dibromochloromethane	46.8		ug/L	50.0	BLOD	93.7	60-135			
Dibromomethane	46.9		ug/L	50.0	BLOD	93.8	75-125			
Dichlorodifluoromethane	68.2		ug/L	50.0	BLOD	136	30-155			
Ethylbenzene	51.7		ug/L	50.0	BLOD	103	75-125			
Hexachlorobutadiene	52.7		ug/L	50.0	BLOD	105	50-140			
Isopropylbenzene	47.3		ug/L	50.0	BLOD	94.6	75-125			
m+p-Xylenes	105		ug/L	100	BLOD	105	75-130			
Methylene chloride	45.4		ug/L	50.0	BLOD	90.7	55-140			
Methyl-t-butyl ether (MTBE)	50.8		ug/L	50.0	BLOD	102	65-125			
Naphthalene	36.8		ug/L	50.0	BLOD	73.6	55-140			
n-Butylbenzene	55.1		ug/L	50.0	BLOD	110	70-135			
n-Propylbenzene	53.8		ug/L	50.0	BLOD	108	70-130			
o-Xylene	52.6		ug/L	50.0	BLOD	105	80-120			
sec-Butylbenzene	59.7		ug/L	50.0	BLOD	119	70-125			
Styrene	51.1		ug/L	50.0	BLOD	102	65-135			
tert-Butylbenzene	52.7		ug/L	50.0	BLOD	105	70-130			
Tetrachloroethylene (PCE)	77.7		ug/L	50.0	BLOD	155	51-231			
Toluene	50.2		ug/L	50.0	BLOD	100	75-120			
trans-1,2-Dichloroethylene	48.8		ug/L	50.0	BLOD	97.7	60-140			
trans-1,3-Dichloropropene	46.3		ug/L	50.0	BLOD	92.7	55-140			
Trichloroethylene	50.1		ug/L	50.0	BLOD	100	70-125			
Trichlorofluoromethane	62.8		ug/L	50.0	BLOD	126	60-145			
Vinyl chloride	65.9		ug/L	50.0	BLOD	132	50-145			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0293 - SW5030B-MS

 Matrix Spike (BIB0293-MS1) Source: 25B0417-01 Prepared & Analyzed: 02/07/2025

Surr: 1,2-Dichloroethane-d4 (Surr)	51.3		ug/L	50.0		103	70-120
Surr: 4-Bromofluorobenzene (Surr)	51.5		ug/L	50.0		103	75-120
Surr: Dibromofluoromethane (Surr)	52.7		ug/L	50.0		105	70-130
Surr: Toluene-d8 (Surr)	52.6		ug/L	50.0		105	70-130

#### Batch BIB0294 - SW5030B-MS

 Blank (BIB0294-BLK1) Prepared & Analyzed: 02/10/2025

2-Butanone (MEK)	ND	10.0	ug/kg				
Acetone	ND	40.0	ug/kg				
Benzene	ND	10.0	ug/kg				
Ethylbenzene	ND	10.0	ug/kg				
Toluene	ND	10.0	ug/kg				
Xylenes, Total	ND	10.0	ug/kg				
Surr: 1,2-Dichloroethane-d4 (Surr)	50.2		ug/kg	50.0		100	80-120
Surr: 4-Bromofluorobenzene (Surr)	51.2		ug/kg	50.0		102	85-120
Surr: Dibromofluoromethane (Surr)	49.2		ug/kg	50.0		98.5	80-130
Surr: Toluene-d8 (Surr)	51.3		ug/kg	50.0		103	85-115

 LCS (BIB0294-BS1) Prepared & Analyzed: 02/10/2025

1,1,1,2-Tetrachloroethane	61.6		ug/kg	50.0		123	85-132
1,1,1-Trichloroethane	50.8		ug/kg	50.0		102	70-135
1,1,2,2-Tetrachloroethane	58.9		ug/kg	50.0		118	55-130
1,1,2-Trichloroethane	57.7		ug/kg	50.0		115	60-125
1,1-Dichloroethane	50.6		ug/kg	50.0		101	70-136
1,1-Dichloroethylene	44.4		ug/kg	50.0		88.9	65-135



## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0294 - SW5030B-MS

**LCS (BIB0294-BS1)**

Prepared &amp; Analyzed: 02/10/2025

1,1-Dichloropropene	49.2		ug/kg	50.0		98.5	70-135			
1,2,3-Trichlorobenzene	49.8		ug/kg	50.0		99.5	60-135			
1,2,3-Trichloropropane	57.2		ug/kg	50.0		114	65-130			
1,2,4-Trichlorobenzene	50.0		ug/kg	50.0		100	65-130			
1,2,4-Trimethylbenzene	53.4		ug/kg	50.0		107	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	48.6		ug/kg	50.0		97.3	40-135			
1,2-Dibromoethane (EDB)	53.9		ug/kg	50.0		108	70-125			
1,2-Dichlorobenzene	54.6		ug/kg	50.0		109	75-120			
1,2-Dichloroethane	45.8		ug/kg	50.0		91.6	70-135			
1,2-Dichloropropane	53.1		ug/kg	50.0		106	70-120			
1,3,5-Trimethylbenzene	53.1		ug/kg	50.0		106	65-135			
1,3-Dichlorobenzene	54.2		ug/kg	50.0		108	70-125			
1,3-Dichloropropane	58.2		ug/kg	50.0		116	75-125			
1,4-Dichlorobenzene	52.6		ug/kg	50.0		105	70-125			
2,2-Dichloropropane	54.0		ug/kg	50.0		108	65-135			
2-Butanone (MEK)	40.1		ug/kg	50.0		80.1	30-160			
2-Chlorotoluene	52.7		ug/kg	50.0		105	70-130			
2-Hexanone (MBK)	51.0		ug/kg	50.0		102	45-145			
4-Chlorotoluene	52.5		ug/kg	50.0		105	75-125			
4-Isopropyltoluene	56.4		ug/kg	50.0		113	75-135			
4-Methyl-2-pentanone (MIBK)	49.8		ug/kg	50.0		99.6	45-145			
Acetone	44.3		ug/kg	50.0		88.6	20-160			
Benzene	51.0		ug/kg	50.0		102	75-125			
Bromobenzene	56.3		ug/kg	50.0		113	65-120			
Bromochloromethane	50.6		ug/kg	50.0		101	70-125			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0294 - SW5030B-MS

**LCS (BIB0294-BS1)**

Prepared &amp; Analyzed: 02/10/2025

Bromodichloromethane	55.3		ug/kg	50.0		111	70-130			
Bromoform	49.7		ug/kg	50.0		99.3	55-135			
Bromomethane	62.1		ug/kg	50.0		124	30-160			
Carbon disulfide	34.7		ug/kg	50.0		69.3	45-160			
Carbon tetrachloride	54.3		ug/kg	50.0		109	65-135			
Chlorobenzene	52.7		ug/kg	50.0		105	75-125			
Chloroethane	50.5		ug/kg	50.0		101	40-155			
Chloroform	49.6		ug/kg	50.0		99.2	70-125			
Chloromethane	53.7		ug/kg	50.0		107	50-130			
cis-1,2-Dichloroethylene	49.9		ug/kg	50.0		99.8	65-125			
cis-1,3-Dichloropropene	59.2		ug/kg	50.0		118	70-125			
Dibromochloromethane	67.5		ug/kg	50.0		135	65-130			L
Dibromomethane	49.2		ug/kg	50.0		98.3	75-130			
Dichlorodifluoromethane	61.8		ug/kg	50.0		124	35-135			
Ethylbenzene	55.3		ug/kg	50.0		111	75-125			
Hexachlorobutadiene	54.1		ug/kg	50.0		108	55-140			
Isopropylbenzene	51.5		ug/kg	50.0		103	75-130			
m+p-Xylenes	109		ug/kg	100		109	80-125			
Methylene chloride	47.8		ug/kg	50.0		95.6	55-140			
Methyl-t-butyl ether (MTBE)	51.3		ug/kg	50.0		103	65-125			
Naphthalene	45.4		ug/kg	50.0		90.9	40-125			
n-Butylbenzene	56.0		ug/kg	50.0		112	65-140			
n-Propylbenzene	54.0		ug/kg	50.0		108	65-135			
o-Xylene	55.8		ug/kg	50.0		112	75-125			
sec-Butylbenzene	56.4		ug/kg	50.0		113	65-130			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0294 - SW5030B-MS

**LCS (BIB0294-BS1)**

Prepared &amp; Analyzed: 02/10/2025

Styrene	55.8		ug/kg	50.0		112	75-125			
tert-Butylbenzene	53.6		ug/kg	50.0		107	65-130			
Tetrachloroethylene (PCE)	75.6		ug/kg	50.0		151	65-140			L
Toluene	53.2		ug/kg	50.0		106	70-125			
trans-1,2-Dichloroethylene	44.5		ug/kg	50.0		89.0	65-135			
trans-1,3-Dichloropropene	52.1		ug/kg	50.0		104	65-125			
Trichloroethylene	51.5		ug/kg	50.0		103	75-125			
Trichlorofluoromethane	55.0		ug/kg	50.0		110	25-185			
Vinyl chloride	54.4		ug/kg	50.0		109	60-125			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.4</i>		<i>ug/kg</i>	<i>50.0</i>		<i>96.8</i>	<i>80-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>53.2</i>		<i>ug/kg</i>	<i>50.0</i>		<i>106</i>	<i>85-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>49.4</i>		<i>ug/kg</i>	<i>50.0</i>		<i>98.9</i>	<i>80-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>53.3</i>		<i>ug/kg</i>	<i>50.0</i>		<i>107</i>	<i>85-115</i>			

**Duplicate (BIB0294-DUP1)**

Source: 25B0274-03

Prepared &amp; Analyzed: 02/10/2025

1,1,1,2-Tetrachloroethane	ND	24500	ug/kg			BLOD		NA	30	
1,1,1-Trichloroethane	ND	24500	ug/kg			BLOD		NA	30	
1,1,1,2-Tetrachloroethane	ND	24500	ug/kg			BLOD		NA	30	
1,1,2-Trichloroethane	ND	24500	ug/kg			BLOD		NA	30	
1,1-Dichloroethane	ND	24500	ug/kg			BLOD		NA	30	
1,1-Dichloroethylene	ND	24500	ug/kg			BLOD		NA	30	
1,1-Dichloropropene	ND	24500	ug/kg			BLOD		NA	30	
1,2,3-Trichlorobenzene	ND	24500	ug/kg			BLOD		NA	30	
1,2,3-Trichloropropane	ND	24500	ug/kg			BLOD		NA	30	
1,2,4-Trichlorobenzene	43600	24500	ug/kg			47500		8.60	30	

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0294 - SW5030B-MS

Duplicate (BIB0294-DUP1)

Source: 25B0274-03

Prepared &amp; Analyzed: 02/10/2025

1,2,4-Trimethylbenzene	5320000	24500	ug/kg		5370000			0.904	30	
1,2-Dibromo-3-chloropropane (DBCP)	ND	24500	ug/kg		BLOD			NA	30	
1,2-Dibromoethane (EDB)	ND	24500	ug/kg		BLOD			NA	30	
1,2-Dichlorobenzene	ND	24500	ug/kg		BLOD			NA	30	
1,2-Dichloroethane	ND	24500	ug/kg		BLOD			NA	30	
1,2-Dichloropropane	ND	24500	ug/kg		BLOD			NA	30	
1,3,5-Trimethylbenzene	1680000	24500	ug/kg		1640000			2.63	30	
1,3-Dichlorobenzene	ND	24500	ug/kg		BLOD			NA	30	
1,3-Dichloropropane	ND	24500	ug/kg		BLOD			NA	30	
1,4-Dichlorobenzene	515000	24500	ug/kg		562000			8.64	30	
2,2-Dichloropropane	ND	24500	ug/kg		BLOD			NA	30	
2-Butanone (MEK)	ND	24500	ug/kg		BLOD			NA	30	
2-Chlorotoluene	40700	24500	ug/kg		34600			16.3	30	
2-Hexanone (MBK)	ND	24500	ug/kg		BLOD			NA	30	
4-Chlorotoluene	ND	24500	ug/kg		BLOD			NA	30	
4-Isopropyltoluene	ND	24500	ug/kg		86500			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	24500	ug/kg		BLOD			NA	30	
Acetone	64200	98000	ug/kg		BLOD			NA	30	
Benzene	507000	24500	ug/kg		559000			9.71	30	
Bromobenzene	ND	24500	ug/kg		BLOD			NA	30	
Bromochloromethane	ND	24500	ug/kg		BLOD			NA	30	
Bromodichloromethane	ND	24500	ug/kg		BLOD			NA	30	
Bromoform	ND	24500	ug/kg		BLOD			NA	30	
Bromomethane	ND	24500	ug/kg		BLOD			NA	30	
Carbon disulfide	ND	24500	ug/kg		BLOD			NA	30	

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0294 - SW5030B-MS

**Duplicate (BIB0294-DUP1)**
**Source: 25B0274-03**
**Prepared & Analyzed: 02/10/2025**

Carbon tetrachloride	ND	24500	ug/kg		BLOD			NA	30	
Chlorobenzene	ND	24500	ug/kg		BLOD			NA	30	
Chloroethane	ND	24500	ug/kg		BLOD			NA	30	
Chloroform	ND	24500	ug/kg		BLOD			NA	30	
Chloromethane	ND	24500	ug/kg		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	24500	ug/kg		BLOD			NA	30	
cis-1,3-Dichloropropene	ND	24500	ug/kg		BLOD			NA	30	
Dibromochloromethane	ND	24500	ug/kg		BLOD			NA	30	
Dibromomethane	ND	24500	ug/kg		BLOD			NA	30	
Dichlorodifluoromethane	ND	24500	ug/kg		BLOD			NA	30	
Di-isopropyl ether (DIPE)	ND	24500	ug/kg		BLOD			NA	30	
Ethylbenzene	2000000	24500	ug/kg		2090000			4.82	30	
Hexachlorobutadiene	ND	24500	ug/kg		BLOD			NA	30	
Iodomethane	ND	24500	ug/kg		BLOD			NA	30	
Isopropylbenzene	630000	24500	ug/kg		580000			8.30	30	
m+p-Xylenes	3000000	24500	ug/kg		3070000			2.43	30	
Methylene chloride	ND	98000	ug/kg		BLOD			NA	30	
Methyl-t-butyl ether (MTBE)	ND	24500	ug/kg		BLOD			NA	30	
Naphthalene	1930000	24500	ug/kg		2260000			15.9	30	
n-Butylbenzene	526000	24500	ug/kg		592000			11.7	30	
n-Propylbenzene	735000	24500	ug/kg		671000			9.17	30	
o-Xylene	1200000	24500	ug/kg		1190000			0.719	30	
sec-Butylbenzene	361000	24500	ug/kg		386000			6.77	30	
Styrene	128000	24500	ug/kg		127000			0.959	30	
tert-Butylbenzene	ND	24500	ug/kg		27700			NA	30	

## Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BIB0294 - SW5030B-MS

**Duplicate (BIB0294-DUP1)**
**Source: 25B0274-03**
**Prepared & Analyzed: 02/10/2025**

Tetrachloroethylene (PCE)	ND	24500	ug/kg		BLOD			NA	30	
Toluene	521000	24500	ug/kg		537000			2.92	30	
trans-1,2-Dichloroethylene	ND	24500	ug/kg		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	24500	ug/kg		BLOD			NA	30	
Trichloroethylene	ND	24500	ug/kg		BLOD			NA	30	
Trichlorofluoromethane	ND	24500	ug/kg		BLOD			NA	30	
Vinyl acetate	ND	24500	ug/kg		BLOD			NA	30	
Vinyl chloride	ND	24500	ug/kg		BLOD			NA	30	
Xylenes, Total	4190000	24500	ug/kg		4260000			1.54	30	
Tetrahydrofuran	ND	24500	ug/kg		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>44.0</i>		<i>ug/kg</i>	<i>50.0</i>		<i>88.0</i>	<i>80-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>50.5</i>		<i>ug/kg</i>	<i>50.0</i>		<i>101</i>	<i>85-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>45.3</i>		<i>ug/kg</i>	<i>50.0</i>		<i>90.7</i>	<i>80-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>55.8</i>		<i>ug/kg</i>	<i>50.0</i>		<i>112</i>	<i>85-115</i>			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0337 - SW3510C/EPA600-MS

**Blank (BIB0337-BLK1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

Anthracene	ND	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	77.8		ug/L	100		77.8	5-136			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	40.2		ug/L	50.0		80.4	9-117			
<i>Surr: 2-Fluorophenol (Surr)</i>	38.5		ug/L	100		38.5	5-60			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	47.2		ug/L	50.0		94.3	5-151			
<i>Surr: Phenol-d5 (Surr)</i>	34.4		ug/L	100		34.4	5-60			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	41.9		ug/L	50.0		83.7	5-141			

**LCS (BIB0337-BS1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

1,2,4-Trichlorobenzene	45.7	10.0	ug/L	50.0		91.5	57-130			
1,2-Dichlorobenzene	38.1	10.0	ug/L	50.0		76.1	22-115			
1,3-Dichlorobenzene	38.2	10.0	ug/L	50.0		76.5	22-112			
1,4-Dichlorobenzene	40.9	10.0	ug/L	50.0		81.7	13-112			
2,4,6-Trichlorophenol	49.1	10.0	ug/L	50.0		98.2	52-129			
2,4-Dichlorophenol	45.0	10.0	ug/L	50.0		89.9	53-122			
2,4-Dimethylphenol	43.2	5.00	ug/L	50.0		86.4	42-120			
2,4-Dinitrophenol	52.5	50.0	ug/L	50.0		105	48-127			
2,4-Dinitrotoluene	49.2	10.0	ug/L	50.0		98.3	10-173			
2,6-Dinitrotoluene	47.2	10.0	ug/L	50.0		94.3	68-137			
2-Chloronaphthalene	46.0	10.0	ug/L	50.0		91.9	65-120			
2-Chlorophenol	39.0	10.0	ug/L	50.0		77.9	36-120			
2-Nitrophenol	47.6	10.0	ug/L	50.0		95.3	45-167			
3,3'-Dichlorobenzidine	36.3	10.0	ug/L	50.0		72.6	10-213			
4,6-Dinitro-2-methylphenol	65.6	50.0	ug/L	50.0		131	53-130			L
4-Bromophenyl phenyl ether	44.1	10.0	ug/L	50.0		88.2	65-120			

### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0337 - SW3510C/EPA600-MS

**LCS (BIB0337-BS1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

4-Chlorophenyl phenyl ether	50.2	10.0	ug/L	50.0		100	38-145			
4-Nitrophenol	16.4	50.0	ug/L	50.0		32.9	13-129			
Acenaphthene	49.0	10.0	ug/L	50.0		98.0	60-132			
Acenaphthylene	49.7	10.0	ug/L	50.0		99.3	54-126			
Acetophenone	36.1	20.0	ug/L	50.0		72.1	0-200			
Anthracene	43.1	10.0	ug/L	50.0		86.3	43-120			
Benzo (a) anthracene	52.0	10.0	ug/L	50.0		104	42-133			
Benzo (a) pyrene	49.5	10.0	ug/L	50.0		98.9	32-148			
Benzo (b) fluoranthene	52.6	10.0	ug/L	50.0		105	42-140			
Benzo (g,h,i) perylene	52.8	10.0	ug/L	50.0		106	10-195			
Benzo (k) fluoranthene	46.2	10.0	ug/L	50.0		92.5	25-146			
bis (2-Chloroethoxy) methane	52.6	10.0	ug/L	50.0		105	49-165			
bis (2-Chloroethyl) ether	41.8	10.0	ug/L	50.0		83.5	43-126			
2,2'-Oxybis (1-chloropropane)	42.4	10.0	ug/L	50.0		84.9	63-139			
bis (2-Ethylhexyl) phthalate	52.7	10.0	ug/L	50.0		105	29-137			
Butyl benzyl phthalate	48.5	10.0	ug/L	50.0		97.0	10-140			
Chrysene	56.1	10.0	ug/L	50.0		112	44-140			
Dibenz (a,h) anthracene	52.9	10.0	ug/L	50.0		106	10-200			
Diethyl phthalate	52.5	10.0	ug/L	50.0		105	10-120			
Dimethyl phthalate	49.4	10.0	ug/L	50.0		98.8	10-120			
Di-n-butyl phthalate	50.9	10.0	ug/L	50.0		102	10-120			
Di-n-octyl phthalate	52.5	10.0	ug/L	50.0		105	19-132			
Fluoranthene	53.0	10.0	ug/L	50.0		106	43-121			
Fluorene	49.8	10.0	ug/L	50.0		99.6	70-120			
Hexachlorobenzene	42.3	1.00	ug/L	50.0		84.6	10-142			



### Certificate of Analysis

 Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0337 - SW3510C/EPA600-MS

**LCS (BIB0337-BS1)**

Prepared: 02/10/2025 Analyzed: 02/11/2025

Hexachlorobutadiene	49.8	10.0	ug/L	50.0		99.5	38-120			
Hexachlorocyclopentadiene	23.8	10.0	ug/L	50.0		47.7	10-76			
Hexachloroethane	38.6	10.0	ug/L	50.0		77.2	55-120			
Indeno (1,2,3-cd) pyrene	49.6	10.0	ug/L	50.0		99.3	10-151			
Isophorone	37.3	10.0	ug/L	50.0		74.6	47-180			
Naphthalene	44.1	5.00	ug/L	50.0		88.2	36-120			
Nitrobenzene	42.8	10.0	ug/L	50.0		85.6	54-158			
n-Nitrosodimethylamine	19.7	10.0	ug/L	50.0		39.4	10-85			
n-Nitrosodi-n-propylamine	41.2	10.0	ug/L	50.0		82.4	14-198			
n-Nitrosodiphenylamine	39.3	10.0	ug/L	50.0		78.7	12-97			
p-Chloro-m-cresol	45.6	10.0	ug/L	50.0		91.2	10-142			
Pentachloronitrobenzene (quintozene)	ND	10.0	ug/L				0-200			
Pentachlorophenol	41.0	20.0	ug/L	50.0		81.9	38-152			
Phenanthrene	52.9	10.0	ug/L	50.0		106	65-120			
Phenol	15.8	10.0	ug/L	50.5		31.2	17-120			
Pyrene	51.1	10.0	ug/L	50.0		102	70-120			
Pyridine	39.0	10.0	ug/L	50.0		78.1	10-103			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	82.0		ug/L	100		82.0	5-136			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	44.8		ug/L	50.0		89.5	9-117			
<i>Surr: 2-Fluorophenol (Surr)</i>	33.5		ug/L	100		33.5	5-60			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	40.4		ug/L	50.0		80.7	5-151			
<i>Surr: Phenol-d5 (Surr)</i>	33.5		ug/L	100		33.5	5-60			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	43.1		ug/L	50.0		86.3	5-141			

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0129 - No Prep Wet Chem</b>										
<b>Blank (BIB0129-BLK1)</b>				Prepared & Analyzed: 02/05/2025						
BOD	ND	2.0	mg/L							
<b>LCS (BIB0129-BS1)</b>				Prepared & Analyzed: 02/05/2025						
BOD	208		mg/L	198		105	84.6-115.4			
<b>Duplicate (BIB0129-DUP1)</b>				Source: 25B0061-01 Prepared & Analyzed: 02/05/2025						
BOD	2.6	2.0	mg/L		2.7			4.48	20	
<b>Batch BIB0175 - No Prep Wet Chem</b>										
<b>Blank (BIB0175-BLK1)</b>				Prepared & Analyzed: 02/05/2025						
Nitrite as N	ND	0.05	mg/L							
<b>LCS (BIB0175-BS1)</b>				Prepared & Analyzed: 02/05/2025						
Nitrite as N	0.10	0.05	mg/L	0.100		95.0	80-120			
<b>Matrix Spike (BIB0175-MS1)</b>				Source: 25B0156-02 Prepared & Analyzed: 02/05/2025						
Nitrite as N	0.16	0.05	mg/L	0.100	0.08	81.0	80-120			
<b>Matrix Spike Dup (BIB0175-MSD1)</b>				Source: 25B0156-02 Prepared & Analyzed: 02/05/2025						
Nitrite as N	0.16	0.05	mg/L	0.100	0.08	81.0	80-120	0.00	20	
<b>Batch BIB0535 - No Prep Wet Chem</b>										
<b>Blank (BIB0535-BLK1)</b>				Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	ND	0.050	mg/L							

### Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0535 - No Prep Wet Chem</b>										
<b>LCS (BIB0535-BS1)</b>				Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	0.42	0.050	mg/L	0.510		82.0	80-120			
<b>Matrix Spike (BIB0535-MS1)</b>				Source: 25B0412-02 Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	0.51	0.050	mg/L	0.500	0.16	69.2	70-130			M
<b>Matrix Spike Dup (BIB0535-MSD1)</b>				Source: 25B0412-02 Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	0.52	0.050	mg/L	0.500	0.16	70.8	70-130	1.56	20	
<b>Batch BIB0536 - No Prep Wet Chem</b>										
<b>Blank (BIB0536-BLK1)</b>				Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	ND	0.500	mg/kg							
<b>LCS (BIB0536-BS1)</b>				Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	ND	0.500	mg/kg	0.510			80-120			
<b>Matrix Spike (BIB0536-MS1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	896	495	mg/kg	495	516	76.8	70-130			
<b>Matrix Spike Dup (BIB0536-MSD1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/13/2025						
Total Recoverable Phenolics	906	495	mg/kg	495	516	78.8	70-130	1.10	20	
<b>Batch BIB0551 - No Prep Wet Chem</b>										
<b>Blank (BIB0551-BLK1)</b>				Prepared & Analyzed: 02/13/2025						
TKN as N	ND	0.50	mg/L							

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Work Order: 25B0274

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0551 - No Prep Wet Chem</b>										
<b>LCS (BIB0551-BS1)</b>				Prepared & Analyzed: 02/13/2025						
TKN as N	4.98		mg/L	5.00		99.6	90-110			
<b>Matrix Spike (BIB0551-MS1)</b>				Source: 25B0367-01 Prepared & Analyzed: 02/13/2025						
TKN as N	5.72	0.50	mg/L	5.00	0.93	95.9	90-110			
<b>Matrix Spike Dup (BIB0551-MSD1)</b>				Source: 25B0367-01 Prepared & Analyzed: 02/13/2025						
TKN as N	5.96	0.50	mg/L	5.00	0.93	101	90-110	3.97	20	
<b>Batch BIB0675 - No Prep Wet Chem</b>										
<b>Blank (BIB0675-BLK1)</b>				Prepared & Analyzed: 02/17/2025						
COD	ND	10.0	mg/L							
<b>LCS (BIB0675-BS1)</b>				Prepared & Analyzed: 02/17/2025						
COD	50.7	10.0	mg/L	50.0		101	88-119			
<b>Matrix Spike (BIB0675-MS1)</b>				Source: 25B0834-01 Prepared & Analyzed: 02/17/2025						
COD	53.7	10.0	mg/L	50.0	BLOD	107	72.4-130			
<b>Matrix Spike Dup (BIB0675-MSD1)</b>				Source: 25B0834-01 Prepared & Analyzed: 02/17/2025						
COD	53.1	10.0	mg/L	50.0	BLOD	106	72.4-130	1.28	20	
<b>Batch BIB0697 - No Prep Wet Chem</b>										
<b>Blank (BIB0697-BLK1)</b>				Prepared & Analyzed: 02/18/2025						
TKN as N	ND	0.5	mg/kg							

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Work Order: 25B0274

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0697 - No Prep Wet Chem</b>										
<b>LCS (BIB0697-BS1)</b>				Prepared & Analyzed: 02/18/2025						
TKN as N	5.2		mg/kg	5.00		103	80-120			
<b>Matrix Spike (BIB0697-MS1)</b>				Source: 25B0274-03RE1 Prepared & Analyzed: 02/18/2025						
TKN as N	1640	99.5	mg/kg	995	948	69.3	75-125			M
<b>Matrix Spike Dup (BIB0697-MSD1)</b>				Source: 25B0274-03RE1 Prepared & Analyzed: 02/18/2025						
TKN as N	1650	98.7	mg/kg	987	948	71.6	75-125	1.09	20	M
<b>Batch BIB0715 - No Prep Wet Chem</b>										
<b>Blank (BIB0715-BLK1)</b>				Prepared & Analyzed: 02/18/2025						
Ammonia as N	ND	0.10	mg/L							
<b>LCS (BIB0715-BS1)</b>				Prepared & Analyzed: 02/18/2025						
Ammonia as N	1.01		mg/L	1.00		101	90-110			
<b>Matrix Spike (BIB0715-MS1)</b>				Source: 25B0917-08 Prepared & Analyzed: 02/18/2025						
Ammonia as N	0.97	0.10	mg/L	1.00	BLOD	97.0	89.3-131			
<b>Matrix Spike (BIB0715-MS2)</b>				Source: 25B0835-01 Prepared & Analyzed: 02/18/2025						
Ammonia as N	1.45	0.10	mg/L	1.00	0.62	83.2	89.3-131			M
<b>Matrix Spike Dup (BIB0715-MSD1)</b>				Source: 25B0917-08 Prepared & Analyzed: 02/18/2025						
Ammonia as N	0.96	0.10	mg/L	1.00	BLOD	95.9	89.3-131	1.14	20	
<b>Matrix Spike Dup (BIB0715-MSD2)</b>				Source: 25B0835-01 Prepared & Analyzed: 02/18/2025						
Ammonia as N	1.45	0.10	mg/L	1.00	0.62	83.3	89.3-131	0.0690	20	M

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BIB0717 - No Prep Wet Chem</b>										
<b>Blank (BIB0717-BLK1)</b>				Prepared & Analyzed: 02/18/2025						
Ammonia as N	ND	0.1	mg/kg							
<b>LCS (BIB0717-BS1)</b>				Prepared & Analyzed: 02/18/2025						
Ammonia as N	1.0		mg/kg	1.00		103	80-120			
<b>Matrix Spike (BIB0717-MS1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/18/2025						
Ammonia as N	3150	199	mg/kg	1990	1160	99.8	75-125			
<b>Matrix Spike Dup (BIB0717-MSD1)</b>				Source: 25B0274-03 Prepared & Analyzed: 02/18/2025						
Ammonia as N	3060	197	mg/kg	1970	1160	96.4	75-125	2.64	20	
<b>Batch BIB0721 - No Prep Wet Chem</b>										
<b>Blank (BIB0721-BLK1)</b>				Prepared & Analyzed: 02/18/2025						
Nitrate+Nitrite as N	ND	0.10	mg/L							
<b>LCS (BIB0721-BS1)</b>				Prepared & Analyzed: 02/18/2025						
Nitrate+Nitrite as N	0.95		mg/L	1.00		94.8	90-110			
<b>Matrix Spike (BIB0721-MS1)</b>				Source: 25B0917-02 Prepared & Analyzed: 02/18/2025						
Nitrate+Nitrite as N	1.43	0.10	mg/L	1.00	0.54	88.9	90-120			M
<b>Matrix Spike Dup (BIB0721-MSD1)</b>				Source: 25B0917-02 Prepared & Analyzed: 02/18/2025						
Nitrate+Nitrite as N	1.40	0.10	mg/L	1.00	0.54	86.5	90-120	1.69	20	M
<b>Batch BIB0779 - No Prep Wet Chem</b>										
<b>Blank (BIB0779-BLK1)</b>				Prepared & Analyzed: 02/19/2025						
COD	ND	10.0	mg/L							

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Work Order: 25B0274

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BIB0779 - No Prep Wet Chem

**LCS (BIB0779-BS1)**

Prepared &amp; Analyzed: 02/19/2025

COD	48.0	10.0	mg/L	50.0		96.0	88-119			
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**Matrix Spike (BIB0779-MS1)**

Source: 25B1073-02

Prepared &amp; Analyzed: 02/19/2025

COD	53.3	10.0	mg/L	50.0	BLOD	107	72.4-130			
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**Matrix Spike Dup (BIB0779-MSD1)**

Source: 25B1073-02

Prepared &amp; Analyzed: 02/19/2025

COD	54.0	10.0	mg/L	50.0	BLOD	108	72.4-130	1.24	20	
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## Certificate of Analysis

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Work Order: 25B0274

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.2R2.8/SW3005A-ICPMS</b>		
25B0274-01	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
25B0274-02	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
25B0274-02RE1	50.0 mL / 50.0 mL	SW6020B	BIB0465	SIB0522	AB50205
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep Wet Chem</b>		
25B0274-01	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
25B0274-02	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
25B0274-05	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
25B0274-01	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
25B0274-02	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
25B0274-05	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
25B0274-01	0.200 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
25B0274-02	0.100 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
25B0274-03	1.01 g / 100 mL	SW9065	BIB0536	SIB0485	AB50200
25B0274-01	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
25B0274-02	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
25B0274-01	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
25B0274-02	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
25B0274-03	1.00 g / 100 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
25B0274-03RE1	1.00 g / 100 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
25B0274-01	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
25B0274-02	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227



## Certificate of Analysis

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Work Order: 25B0274

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep Wet Chem</b>		
25B0274-03	1.00 g / 100 mL	EPA350.1 R2.0	BIB0717	SIB0636	AB50227
25B0274-01	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
25B0274-02	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
25B0274-05	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
25B0274-05	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW3050B-ICPMS</b>		
25B0274-03	1.08 g / 50.0 mL	SW6020B	BIB0259	SIB0708	AB50242
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW3510C/EPA600-MS</b>		
25B0274-01	500 mL / 1.00 mL	SW8270E	BIB0337	SIB0395	AB50156
25B0274-02	500 mL / 1.00 mL	SW8270E	BIB0337	SIB0395	AB50156
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW3550C/EPA600-MS</b>		
25B0274-03	30.0 g / 1.00 mL	SW8270E	BIB0636	SIB0713	AL40319
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
25B0274-01	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
25B0274-01RE1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
25B0274-02	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
25B0274-02RE1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303

## Certificate of Analysis

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Work Order: 25B0274

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
25B0274-04	5.00 mL / 5.00 mL	SW8260D	BIB0293	SIB0270	AK40161
25B0274-03	1.02 g / 10.0 mL	SW8260D	BIB0294	SIB0271	AK40303
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7471B</b>		
25B0274-03	0.502 g / 23.0 mL	SW7471B	BIB0498	SIB0452	AB50196

## Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2R2.8/SW3005A-ICPMS</b>	
BIB0357-BLK1	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0357-BS1	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0357-MS1	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0357-MS2	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0357-MSD1	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0357-MSD2	50.0 mL / 50.0 mL	SW6020B	BIB0357	SIB0348	AB50181
BIB0465-BLK1	50.0 mL / 50.0 mL	SW6020B	BIB0465	SIB0522	AB50205
BIB0465-BS1	50.0 mL / 50.0 mL	SW6020B	BIB0465	SIB0522	AB50205
BIB0465-MS1	50.0 mL / 50.0 mL	SW6020B	BIB0465	SIB0522	AB50205
BIB0465-MSD1	50.0 mL / 50.0 mL	SW6020B	BIB0465	SIB0522	AB50205

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BIB0129-BLK1	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
BIB0129-BS1	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
BIB0129-DUP1	300 mL / 300 mL	SM5210B-2016	BIB0129	SIB0299	
BIB0175-BLK1	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
BIB0175-BS1	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
BIB0175-MRL1	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
BIB0175-MS1	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
BIB0175-MSD1	25.0 mL / 25.0 mL	SM4500-NO2B-2021	BIB0175	SIB0376	AJ40362
BIB0535-BLK1	5.00 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
BIB0535-BS1	5.00 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
BIB0535-MRL1	5.00 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
BIB0535-MS1	5.00 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200

## Certificate of Analysis

Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BIB0535-MSD1	5.00 mL / 10.0 mL	SW9065	BIB0535	SIB0485	AB50200
BIB0536-BLK1	5.00 g / 10.0 mL	SW9065	BIB0536	SIB0485	AB50200
BIB0536-BS1	5.00 g / 10.0 mL	SW9065	BIB0536	SIB0485	AB50200
BIB0536-MS1	0.00505 g / 10.0 mL	SW9065	BIB0536	SIB0485	AB50200
BIB0536-MSD1	0.00505 g / 10.0 mL	SW9065	BIB0536	SIB0485	AB50200
BIB0551-BLK1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
BIB0551-BS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
BIB0551-MRL1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
BIB0551-MS1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
BIB0551-MSD1	25.0 mL / 25.0 mL	EPA351.2 R2.0	BIB0551	SIB0516	AB50209
BIB0675-BLK1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
BIB0675-BS1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
BIB0675-MRL1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
BIB0675-MS1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
BIB0675-MSD1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0675	SIB0610	AB50163
BIB0697-BLK1	25.0 g / 25.0 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
BIB0697-BS1	25.0 g / 25.0 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
BIB0697-MS1	0.126 g / 25.0 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
BIB0697-MSD1	0.127 g / 25.0 mL	EPA351.2 R2.0	BIB0697	SIB0618	AB50229
BIB0715-BLK1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-BS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-MRL1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-MS1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-MS2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-MSD1	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0715-MSD2	6.00 mL / 6.00 mL	EPA350.1 R2.0	BIB0715	SIB0636	AB50227
BIB0717-BLK1	6.00 g / 6.00 mL	EPA350.1 R2.0	BIB0717	SIB0636	AB50227
BIB0717-BS1	6.00 g / 6.00 mL	EPA350.1 R2.0	BIB0717	SIB0636	AB50227

## Certificate of Analysis

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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BIB0717-MS1	0.00301 g / 6.00 mL	EPA350.1 R2.0	BIB0717	SIB0636	AB50227
BIB0717-MSD1	0.00304 g / 6.00 mL	EPA350.1 R2.0	BIB0717	SIB0636	AB50227
BIB0721-BLK1	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0721-BS1	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0721-MRL1	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0721-MRL2	5.00 mL / 5.00 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0721-MS1	20.0 mL / 20.0 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0721-MSD1	20.0 mL / 20.0 mL	SM4500-NO3F-2019	BIB0721	SIB0644	AB50231
BIB0779-BLK1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317
BIB0779-BS1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317
BIB0779-MRL1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317
BIB0779-MS1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317
BIB0779-MSD1	2.00 mL / 2.00 mL	SM5220D-2011	BIB0779	SIB0695	AK40317

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW3050B-ICPMS</b>	
BIB0259-BLK1	1.06 g / 50.0 mL	SW6020B	BIB0259	SIB0708	AB50242
BIB0259-BS1	1.04 g / 50.0 mL	SW6020B	BIB0259	SIB0708	AB50242
BIB0259-MS1	1.01 g / 50.0 mL	SW6020B	BIB0259	SIB0708	AB50242
BIB0259-MSD1	1.05 g / 50.0 mL	SW6020B	BIB0259	SIB0708	AB50242

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW3510C/EPA600-MS</b>	
BIB0337-BLK1	1000 mL / 1.00 mL	SW8270E	BIB0337	SIB0363	AB50156
BIB0337-BS1	1000 mL / 1.00 mL	SW8270E	BIB0337	SIB0363	AB50156

## Certificate of Analysis

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 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BIB0204-BLK1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
BIB0204-BS1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
BIB0204-MS1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
BIB0204-MSD1	5.00 mL / 5.00 mL	SW8260D	BIB0204	SIB0183	AK40303
BIB0293-BLK1	5.00 mL / 5.00 mL	SW8260D	BIB0293	SIB0270	AK40161
BIB0293-BS1	5.00 mL / 5.00 mL	SW8260D	BIB0293	SIB0270	AK40161
BIB0293-DUP1	5.00 mL / 5.00 mL	SW8260D	BIB0293	SIB0270	AK40161
BIB0293-MS1	5.00 mL / 5.00 mL	SW8260D	BIB0293	SIB0270	AK40161
BIB0294-BLK1	1.00 g / 10.0 mL	SW8260D	BIB0294	SIB0271	AK40303
BIB0294-BS1	1.00 g / 10.0 mL	SW8260D	BIB0294	SIB0271	AK40303
BIB0294-DUP1	1.02 g / 10.0 mL	SW8260D	BIB0294	SIB0271	AK40303
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW7471B</b>	
BIB0498-BLK1	0.532 g / 23.0 mL	SW7471B	BIB0498	SIB0452	AB50196
BIB0498-BS1	0.535 g / 23.0 mL	SW7471B	BIB0498	SIB0452	AB50196
BIB0498-MS1	0.501 g / 23.0 mL	SW7471B	BIB0498	SIB0452	AB50196
BIB0498-MSD1	0.501 g / 23.0 mL	SW7471B	BIB0498	SIB0452	AB50196

## Certificate of Analysis

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 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM  
 Work Order: 25B0274

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>EPA350.1 R2.0 in Non-Potable Water</i></b>	
Ammonia as N	VELAP,NCDEQ,PADEP,WVDEP,SCDHEC
<b><i>EPA350.1 R2.0 in Organic</i></b>	
Ammonia as N	VELAP
<b><i>EPA351.2 R2.0 in Non-Potable Water</i></b>	
TKN as N	VELAP,NCDEQ,WVDEP,SCDHEC
<b><i>EPA351.2 R2.0 in Organic</i></b>	
TKN as N	VELAP
<b><i>SM4500-NO2B-2021 in Non-Potable Water</i></b>	
Nitrite as N	VELAP,WVDEP,NCDEQ,SCDHEC
<b><i>SM4500-NO3F-2019 in Non-Potable Water</i></b>	
Nitrate+Nitrite as N	VELAP,WVDEP,NCDEQ,SCDHEC
<b><i>SM5210B-2016 in Non-Potable Water</i></b>	
BOD	VELAP,NCDEQ,WVDEP
<b><i>SM5220D-2011 in Non-Potable Water</i></b>	
COD	VELAP,NCDEQ,PADEP,WVDEP,SCDHEC
<b><i>SW6020B in Non-Potable Water</i></b>	
Mercury	VELAP
Arsenic	VELAP,WVDEP,NCDEQ,SCDHEC
Barium	VELAP,WVDEP,NCDEQ,SCDHEC
Cadmium	VELAP,WVDEP,NCDEQ,SCDHEC
Chromium	VELAP,WVDEP,NCDEQ,SCDHEC
Copper	VELAP,WVDEP,NCDEQ,SCDHEC
Lead	VELAP,WVDEP,SCDHEC

## Certificate of Analysis

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 Client Site I.D.: LFG-EW Monthly Monitoring  
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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

### Certified Analyses included in this Report

Analyte	Certifications
Nickel	VELAP,WVDEP,SCDHEC
Selenium	VELAP,WVDEP,SCDHEC
Silver	VELAP,WVDEP,SCDHEC
Zinc	VELAP,WVDEP,SCDHEC
<b>SW6020B in Organic</b>	
Arsenic	VELAP,PADEP,NCDEQ
Barium	VELAP,PADEP,NCDEQ
Cadmium	VELAP,PADEP,NCDEQ
Chromium	VELAP,PADEP,NCDEQ
Copper	VELAP,PADEP,NCDEQ
Lead	VELAP,PADEP
Nickel	VELAP,PADEP
Selenium	VELAP,PADEP
Silver	VELAP,PADEP
Zinc	VELAP,PADEP
<b>SW7471B in Organic</b>	
Mercury	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
<b>SW8260D in Non-Potable Water</b>	
2-Butanone (MEK)	NCDEQ,PADEP,VELAP,WVDEP
Acetone	NCDEQ,PADEP,VELAP,WVDEP
Benzene	NCDEQ,PADEP,VELAP,WVDEP
Ethylbenzene	NCDEQ,PADEP,VELAP,WVDEP
Toluene	NCDEQ,PADEP,VELAP,WVDEP
Xylenes, Total	NCDEQ,PADEP,VELAP,WVDEP
Tetrahydrofuran	PADEP,VELAP
<b>SW8260D in Organic</b>	



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Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

#### Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
2-Butanone (MEK)	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
Acetone	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
Benzene	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
Ethylbenzene	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
Toluene	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
Xylenes, Total	VELAP,PADEP,NCDEQ,WVDEP,SCDHEC
<b><i>SW8270E in Non-Potable Water</i></b>	
Anthracene	NCDEQ,VELAP,PADEP,WVDEP
<b><i>SW8270E in Solids</i></b>	
Anthracene	NCDEQ,WVDEP,VELAP,PADEP,SCDHEC
<b><i>SW9065 in Non-Potable Water</i></b>	
Total Recoverable Phenolics	VELAP,WVDEP
<b><i>SW9065 in Organic</i></b>	
Total Recoverable Phenolics	VELAP

## Certificate of Analysis

Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

Code	Description	Laboratory ID	Expires
DURSC-NCDHHS	NCDHHS Durham Service Center	37918	07/31/2025
MdDOE	Maryland DE Drinking Water	341	12/31/2025
NCDEQ	North Carolina DEQ	495	12/31/2025
NCDHHS	North Carolina Department of Health and Human Services	51714	07/31/2025
NYDOH	New York DOH Drinking Water	12069	04/01/2025
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2025
SCDHEC	South Carolina Dept of Health and Environmental Control Certificate 93016001	93016	06/14/2025
TXCEQ	Texas Comm on Environmental Quality #T104704576-23-1	T104704576	05/31/2025
VELAP	NELAP-Virginia Certificate #12969	460021	06/14/2025
WVDEP	West Virginia DEP	350	11/30/2025

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## Certificate of Analysis

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Work Order: 25B0274

### Qualifiers and Definitions

DS	Surrogate concentration reflects a dilution factor.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection, same as Method Detection Limit (MDL) as defined by 40 CFR 136 Appendix B
BLOD	Below Limit of Detection, same as Below Method Detection Limit (MDL) as defined by 40 CFR 136 Appendix B
LOQ	Limit of Quantitation
DF	Dilution Factor
DL	Detection Limit, same as MDL as defined by 40 CFR 136 Appendix B
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1941 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX

CHAIN OF CUSTODY

COMPANY NAME: <b>SCS Engineers</b>	INVOICE TO: <b>City of Bristol, VA</b>	PROJECT NAME/Quote #: <b>City of Bristol Landfill #588</b>
CONTACT: <b>Jennifer Robb</b>	INVOICE CONTACT: <b>Jon Hayes</b>	SITE NAME: <b>LFG-EW Monthly Monitoring</b>
ADDRESS: <b>296 Victory Road, Winchester, VA</b>	INVOICE ADDRESS: <b>2655 Valley Drive, Bristol, VA, 24201</b>	PROJECT NUMBER: <b>02218208.15 Task 3</b>
PHONE #: <b>703-471-6150</b>	INVOICE PHONE #: <b>276-645-3788</b>	P.O. #:
EMAIL: <b>jrobb@scsengineers.com</b>	EMAIL: <b>jon.hayes@bristolva.org</b>	Pretreatment Program:

Is sample for compliance reporting? **YES NO** Regulatory State: **V A** Is sample from a chlorinated supply? **YES NO** PWS I.D. #:

SAMPLER NAME (PRINT): **Laura Tucker** SAMPLER SIGNATURE: *[Signature]* Turn Around Time: **10** Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)										COMMENTS
											VOCs (Acetone, Benzene, EB, MEK, THF, Toluene, Xylene) Custom List	Mercury Method 6020	Metals 6010 (Ag, As, Ba, Cd, Cr, Cu, Ni, Pb, Se, Zn)	Phenolics	TKN, Nitrate (Cd), Nitrite	SVOC (Anthracene only)	COD, Ammonia	BOD	Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol		
1) <b>EW-50</b>	X					<b>2/4/25</b>	<b>8:10</b>		WW	9	X	X	X	X	X	X	X	X	<p><b>Note VOC 8260 no HCl</b></p> <p>PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)</p> <p>Observed Temp °C: <b>0.2</b> Correction Factor °C: <b>0.0</b> Corrected Temp °C: <b>0.2</b></p>		
2) <b>EW-85</b>	X					↓	<b>8:55</b>		WW	9	X	X	X	X	X	X	X				
3) <b>EW-61</b>	X					↓	<b>9:10</b>		WW	9	X	X	X	X	X	X	X				
4)									WW												
5)									WW												
6)									WW												
7)									WW												
8)									WW												
9)									WW												
10) <b>Trip Blank</b>	X					<b>1/27/25</b>	<b>10:10</b>		DI	2	X										

RELINQUISHED: <i>[Signature]</i> DATE / TIME: <b>2/4/25 1400</b>	RECEIVED: <i>[Signature]</i> DATE / TIME: <b>2/5/25 1005</b>	QC Data Package	LAB USE ONLY Therm ID: _____ COOLER TEMP _____ °C Custody Seals used and intact? (Y/N) _____ Received on ice? (Y/N) _____
RELINQUISHED: <i>[Signature]</i> DATE / TIME: _____	RECEIVED: <i>[Signature]</i> DATE / TIME: _____	Level III <input type="checkbox"/>	<p><b>SCS-W 25B0274</b></p> <p><b>Bristol LFG-EW Monthly Monitor</b></p> <p><b>Recd: 02/05/2025 Due: 02/19/2025</b></p>
RELINQUISHED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level IV <input type="checkbox"/>	

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# Sample Preservation Log

Order ID 15B0274 Date Performed: 2/5/25 Analyst Performing Check: MY

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (525/8270/625)		CrVI * **		Pest/PCB (508) / SVOC(525)		Phenolics		COD			
		pH as Received		pH as Received		pH as Received		pH as Received		pH as Received		pH as Received		pH as Received		pH as Received		pH as Received		Res. Cl		Res. Cl		Received pH		pH as Received		pH as Received		pH as Received	
		< 2	Other	> 12	Other	> 9	Other	< 2	Other	< 2	Other	< 2	Other	< 2	Other	< 2	Other	< 2	Other	+	-	+	-	or -	+	-	< 2	Other	< 2	Other	< 2
01 A		7	4.2																												
01 D								7	4.2	7	4.2			7	4.2															7	4.2
01 E																														7	4.2
02 A		5	4.2																												
02 D								5	4.2	5	4.2			5	4.2															5	4.2
02 E																														5	4.2

NaOH ID: \_\_\_\_\_ HNO3 ID: 5A03008 CrVI preserved date/time: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: 4L04529 NazS2O3 ID: \_\_\_\_\_ \*pH must be adjusted between 9.3 - 9.7  
 HCL ID: \_\_\_\_\_ NazSO3 ID: \_\_\_\_\_ Ammonia Buffer Sol'n ID: \_\_\_\_\_  
 5N NaOH ID: \_\_\_\_\_

Metals were received with pH = 4,5,7  
 HNO3 was added at 1500 on February  
 5<sup>th</sup> 2025 by DLJ in the Log-In room to  
 bring pH= <2.

\*\*W.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

---

**Certificate of Analysis**

Client Name: SCS Engineers - Winchester  
Client Site I.D.: LFG-EW Monthly Monitoring  
Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

## Certificate of Analysis

Client Name: SCS Engineers - Winchester  
 Client Site I.D.: LFG-EW Monthly Monitoring  
 Submitted To: Jennifer Robb

Date Issued: 2/26/2025 10:01:59AM

Work Order: 25B0274

**Laboratory Order ID: 25B0274**

### Sample Conditions Checklist

Samples Received at:	0.20°C
How were samples received?	FedEx Express
Were Custody Seals used?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	No

#### Work Order Comments

The samples were received requiring pH adjustment in the lab to a pH <2. Additionally, due the color of the samples, they were unable to be checked for oxidizing agents in the lab.  
 Jennifer Robb notified via email

**Certificate of Analysis**

Client Name: SCS Engineers - Winchester  
Client Site I.D.: LFG-EW Monthly Monitoring  
Submitted To: Jennifer Robb  
JNH 2/6/25 1120

Date Issued: 2/26/2025 10:01:59AM  
Work Order: 25B0274



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
Ammonia as N (mg/L)	November-2022	---	---	---	---	---	---	---	---	1560	---	1400	---	---	1380	---	---	---	---	---	---	---	---	---	---	50	50	
	December-2022	---	1700	---	2280	---	---	---	2110	---	1410	1310	---	---	---	---	1150	1780	---	---	---	---	---	---	---	100	100	
	January-2023	---	1520	---	---	---	---	---	---	936	---	---	---	---	---	---	1330	---	---	---	---	---	---	---	---	50	50	
	February-2023	---	---	---	---	---	---	---	---	---	2440	---	---	---	---	---	---	---	1490	---	---	---	---	---	---	100	100	
	March-2023	---	---	---	---	---	---	---	---	667	1480	---	---	---	---	---	---	---	---	---	---	---	---	---	---	73.1	100	
	April-2023	---	---	---	---	---	---	---	---	1410	---	1220	---	---	---	---	---	---	---	---	---	---	---	---	---	73.1	100	
	May-2023	---	1390	---	---	---	---	---	---	1860	2380	---	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200	
	June-2023	---	---	---	---	---	---	---	---	---	2740	---	2370	---	2170	---	---	---	---	---	---	---	---	---	---	146	200	
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1180	---	---	---	---	---	---	73.1	100	
	August-2023	---	1570	---	---	---	---	---	2260	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2350	310	146	200	
	September-2023	---	---	---	---	---	1600	---	1890	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200	
	October-2023	---	---	---	1250	---	---	---	---	---	---	---	---	---	---	---	---	---	1720	---	---	---	---	---	---	73.1	100	
	November-2023	---	1260	---	2490	1830	---	1980	2070	---	---	---	---	---	---	---	---	---	1730	---	---	2890	---	---	---	146	200	
	December-2023	---	---	---	---	---	---	---	---	---	2440	---	---	---	---	---	---	---	---	---	---	---	---	---	---	366	500	
	January-2024	---	---	---	2900	---	---	---	---	---	---	---	---	---	---	---	---	---	1540	---	---	---	---	---	---	73.1	100	
	February-2024	---	---	2160	---	---	---	---	---	---	2400	---	---	---	---	---	---	---	2200	---	---	---	---	---	---	146	200	
	March-2024	---	---	1900	---	2600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1780	---	2380	---	---	146	200	
	April-2024	---	---	---	2290	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2280	---	968	146	200	
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	898	73.1	100
	June-2024	---	---	---	---	---	---	---	---	---	2550	---	---	---	---	---	---	---	1620	---	1950	2660	---	---	---	146	200	
	July-2024	---	---	---	---	---	---	---	---	---	1860	---	---	---	---	---	---	---	1990	---	2170	---	---	---	---	146	200	
	August-2024	---	---	---	---	---	1110	---	---	---	---	1950	---	---	---	---	---	---	---	---	---	---	---	---	---	73.1	100	
	September-2024	---	---	---	---	---	1440	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200	
	October-2024	343	---	---	2210	---	---	---	---	---	---	---	---	---	---	---	---	---	2290	---	---	---	---	---	---	146	200	
	November-2024	---	1370	---	2180	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1490	---	---	---	---	---	73.1	100	
December-2024	934	1370	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	146	200		
January-2025	---	---	---	1510	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1560	146	200	
February-2025	---	1300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.68	---	---	---	---	0.005	0.01		
Biological Oxygen Demand (mg/L)	November-2022	---	---	---	---	---	---	---	---	15700	---	5860	---	---	5140	---	---	---	---	---	---	---	---	---	---	0.2	2	
	December-2022	---	6440	---	12500	---	---	---	11400	---	9240	3330	---	---	---	8360	6770	---	---	---	---	---	---	---	---	0.2	2	
	January-2023	---	9920	---	---	---	---	---	---	999	28100	---	---	---	---	7060	---	---	---	---	---	---	---	---	---	0.2	2	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	March-2023	---	---	---	---	---	---	---	---	1570	9190	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	April-2023	---	---	---	---	---	---	---	---	8430	---	2860	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	May-2023	---	7350	---	---	---	---	---	---	---	11900	35300	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	June-2023	---	---	---	---	---	---	---	---	---	20000	---	27400	---	23100	---	---	---	---	---	---	---	---	---	---	0.2	2	
	July-2023	---	6820	---	---	---	---	---	32900	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	August-2023	---	---	---	---	---	>33045	---	>33225	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	September-2023	---	---	---	40185.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	October-2023	---	---	---	---	---	34600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	November-2023	---	1910	---	30400	27500	---	32015	---	---	29600	---	---	3640	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	December-2023	---	---	---	>44105	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	January-2024	---	---	26000	---	---	---	---	---	---	17100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	February-2024	---	---	23200	---	26200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	April-2024	---	---	---	41142	---	---	---	---	---	---	---	---	1210	---	---	---	19600	386	---	---	---	---	---	---	0.2	2	
	May-2024	---	---	---	---	---	---	---	---	---	25600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	July-2024	---	---	---	---	---	---	---	---	---	25800	4750	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	August-2024	---	---	---	---	---	31000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	September-2024	---	---	---	ND	---	36100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	October-2024	180	6680	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
	November-2024	4760	7360	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2	
December-2024	---	---	---	42600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20300	0.2	2	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2		
February-2025	---	4420	---	---	---	---	---	---	---	---	---	43418.4	---	---	---	---	---	---	---	---	---	---	---	---	0.2	2		



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
Nitrate as N (mg/L)	December-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	0.2	0.2
		---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.6
		---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
	January-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	1.1
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.1	2.1
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.2	2.2
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	1.1
	May-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.2	2.2
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	1.1
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.2	5.2
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.2	5.2
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.55	0.75
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	3
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.35
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.75
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	10.5
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.35
---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	1.35	
June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	2.6	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	5.1	
July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	2.6	
August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5	
September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.5	7.5	
October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.75	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.35	0.35	
November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	5.5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	10.5	
December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.35	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	2.6	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5	
																										10	50	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
Nitrite as N (mg/L)	December-2022	---	---	---	---	---	---	---	---	---	0.12 J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1	0.5	
	January-2023	---	ND	---	ND	---	---	---	---	---	ND	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	1	5	
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25	
	February-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1	
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	2	
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.48 J	---	---	---	---	---	---	---	0.25	1.25	
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5	
	May-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5	
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.25	
		---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.25
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	1	
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.25
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	0.25
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	10
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.25
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25
---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5	
July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5	
August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	25	
September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25	
October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	25	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1	0.5	
November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25	
December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	2.5	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	1.25	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	5	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	50	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Total Kjeldahl Nitrogen (mg/L)	November-2022	---	---	---	---	---	---	---	---	---	---	1290	---	---	1470	---	---	---	---	---	---	---	---	---	---	20	50
	December-2022	---	1510	---	3570	---	---	---	1790	---	1830	1490	---	---	---	---	1340	1940	---	---	---	---	---	---	---	50	125
	January-2023	---	1840	---	---	---	---	---	---	881	---	---	---	---	---	---	1410	---	---	---	---	---	---	---	---	20	50
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1870	---	---	---	---	---	---	---	40	100
	March-2023	---	---	---	---	---	---	---	---	879	1920	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16.8	50
	April-2023	---	---	---	---	---	---	---	---	1820	---	1510	---	---	---	---	---	---	---	---	---	---	---	---	---	33.6	100
	May-2023	---	1590	---	---	---	---	---	---	1950	2910	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16.8	50
	June-2023	---	---	---	---	---	---	---	---	---	3080	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	July-2023	---	1670	---	---	---	---	---	2960	---	---	---	2650	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	August-2023	---	---	---	---	---	2240	---	2820	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	500
	September-2023	---	---	---	3340	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2680	---	---	---	---	---	100	250
	October-2023	---	---	---	---	---	---	1050	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1320	---	---	40	100
	November-2023	---	---	---	---	---	---	2240	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	December-2023	---	1440	---	3290	2630	---	---	---	---	2530	---	---	1120	---	---	---	---	---	2270	---	---	3170	---	---	80	200
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1880	---	---	---	---	---	80	200
	February-2024	---	---	2450	---	---	---	---	---	---	3020	---	---	---	---	---	---	---	---	---	1890	---	---	---	---	100	250
	March-2024	---	---	2540	---	2890	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2470	---	2970	---	100	250
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	500
	August-2024	---	---	---	---	---	1980	---	---	---	2840	2680	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	September-2024	---	---	---	---	---	2090	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	125
	October-2024	---	---	---	3320	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	November-2024	351	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
December-2024	---	1360	---	2850	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250	
January-2025	1070	1610	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100	
February-2025	---	---	---	2790	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250	
February-2025	---	---	---	---	---	---	---	---	---	---	---	0.948	---	---	---	---	---	---	---	---	---	---	---	---	0.0398	0.0995	
February-2025	---	1190	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
Total Recoverable Phenolics (mg/L)	November-2022	---	---	---	---	---	---	---	---	---	---	5.68	---	---	3	---	---	---	---	---	---	---	---	---	---	0.3	0.5	
	December-2022	---	---	---	---	---	---	---	---	28.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.25	
	January-2023	---	24.9	---	54.6	---	---	---	28.3	---	32	---	---	---	---	---	20.2	36	---	---	---	---	---	---	---	1.5	2.5	
	February-2023	---	27.2	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.25	
	March-2023	---	---	---	---	---	---	---	---	---	56.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	April-2023	---	---	---	---	---	---	---	---	0.4	---	---	---	---	---	---	---	22.4	---	---	---	---	---	---	---	1.5	2.5	
	May-2023	---	---	---	---	---	---	---	---	---	13.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.05	
	June-2023	---	---	---	---	---	---	---	---	18.7	---	5.1	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5	
	July-2023	---	18.6	---	---	---	---	---	---	20	50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	August-2023	---	---	---	---	---	---	---	---	---	39.1	---	45.6	---	80.6	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.7	---	---	---	---	---	---	0.15	0.25	
	October-2023	---	11.6	---	---	---	---	---	47.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5	
	November-2023	---	---	---	---	---	28.6	---	31.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.92	0.3	0.5
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.25	
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	1	
	April-2024	---	7.88	---	---	36.4	---	---	---	---	---	---	---	4.76	---	---	---	---	3.65	---	---	---	---	---	---	0.15	0.25	
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	1	
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.25	
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	5	
	October-2024	0.376	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.05	
	November-2024	---	8.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	0.5	
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	2.5	
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	5	
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	1.25	
													516													495	495	



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Concentration																										
Monitoring Event	TOTAL METALS (mg/L)																										
Arsenic	November-2022	---	---	---	---	---	---	---	---	0.863	---	0.464	---	---	1.3	---	---	---	---	---	---	---	---	---	0.02	0.04	
	December-2022	---	1.02	---	0.406	---	---	---	0.174	---	1.69	0.49	---	---	---	0.159	0.574	---	---	---	---	---	---	---	0.02	0.04	
	January-2023	---	0.285	---	---	---	---	---	---	0.596	0.225	---	---	---	0.846	---	---	---	---	---	---	---	---	---	0.01	0.02	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.29	---	---	---	---	---	---	0.005	0.01	
	March-2023	---	---	---	---	---	---	---	---	1.07	1	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.02	
	April-2023	---	---	---	---	---	---	---	---	---	---	0.11	---	---	---	---	---	---	---	---	---	---	---	---	0.0005	0.001	
	May-2023	---	0.26	---	---	---	---	---	---	0.36	0.27	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01	
	June-2023	---	---	---	---	---	---	---	---	0.3	0.27	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005	
	July-2023	---	0.23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.24	---	---	---	---	0.19	0.06	0.0005	0.001
	August-2023	---	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005	
	September-2023	---	---	---	0.42	---	---	---	0.32	0.43	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005	
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	---	---	---	---	---	---	0.005	0.01
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.24	---	---	0.31	---	---	---	0.0005	0.001
	December-2023	---	0.23	---	0.33	0.53	---	0.43	---	---	0.35	---	---	0.78	---	---	---	---	0.34	---	---	0.27	---	---	0.2	0.003	0.003
	January-2024	---	---	---	0.4	---	---	---	---	---	---	---	---	---	---	---	---	---	0.24	---	---	---	---	---	---	0.0025	0.005
	February-2024	---	---	0.47	---	---	---	---	---	---	0.23	---	---	---	---	---	---	---	---	---	---	---	---	---	0.18	0.0025	0.005
	March-2024	---	---	0.68	---	0.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.33	---	0.23	---	---	0.002	0.002
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.23	---	0.12	0.001	0.002
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	0.49	---	---	---	---	0.18	---	---	---	---	---	---	0.0005	0.001
	June-2024	---	---	---	0.31	---	---	---	---	---	---	---	---	---	---	---	---	0.33	---	---	---	---	---	---	---	0.004	0.004
	July-2024	---	---	---	---	---	---	---	---	---	0.33	---	---	---	---	---	---	---	0.2	---	0.73	0.22	---	---	0.22	0.005	0.01
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.19	---	0.49	---	---	---	0.14	0.005	0.01
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005
	October-2024	---	---	---	---	---	0.18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.49	---	---	0.13	---	0.005
November-2024	---	---	---	0.27	---	0.15	---	---	---	---	---	---	---	---	---	---	---	0.19	---	---	---	---	---	---	0.005	0.01	
December-2024	0.1	0.26	---	0.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.18	---	---	---	---	---	0.005	0.01	
January-2025	0.18	0.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01	
February-2025	---	---	---	0.28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.09	0.005	0.01	
March-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.88	---	---	---	---	0.01	0.05	
April-2025	---	0.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.73	---	---	---	---	0.005	0.01	
May-2025	---	---	---	---	---	---	---	---	---	---	---	0.774 J	---	---	---	---	---	---	---	---	---	---	---	---	0.465	1	



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Barium	November-2022	---	---	---	---	---	---	---	---	0.871	---	0.485	---	---	0.36	---	---	---	---	---	---	---	---	---	---	0.01	0.02
	December-2022	---	0.566	---	0.803	---	---	---	0.978	---	0.438	0.214	---	---	---	0.856	0.793	---	---	---	---	---	---	---	---	0.01	0.02
	January-2023	---	0.643	---	---	---	---	---	---	0.683	1.92	---	---	---	---	0.554	---	---	---	---	---	---	---	---	---	0.005	0.01
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.04	---	---	---	---	---	---	---	---	0.01	0.05
	March-2023	---	---	---	---	---	---	---	---	0.406	0.683	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01
	April-2023	---	---	---	---	---	---	---	---	1.21	---	0.326	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	May-2023	---	0.636	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	June-2023	---	---	---	---	---	---	---	---	1.2	1.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	July-2023	---	---	---	---	---	---	---	---	---	1.69	---	---	---	1.65	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.01
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.005
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.025
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	October-2024	0.26	0.568	---	1.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	November-2024	0.262	0.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
	February-2025	---	0.633	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.05
												ND													0.465	0.5	



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	Parameter	Monitoring Event	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
			Concentration																										
Copper	November-2022	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	---	0.016	0.02	
	December-2022	---	ND	---	ND	---	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	---	0.016	0.02	
	January-2023	---	ND	---	---	---	---	---	---	---	0.0127	0.0256	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	0.008	0.01	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00365	---	---	---	---	---	---	0.0003	0.001	
	March-2023	---	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.008	0.01	
	April-2023	---	---	---	---	---	---	---	---	---	0.00664	---	0.00767	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.001	
	May-2023	---	ND	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0015	0.005	
	June-2023	---	---	---	---	---	---	---	---	---	---	---	0.00154 J	---	0.00362 J	---	0.00269 J	---	---	---	---	---	---	---	---	---	0.0015	0.005	
	July-2023	---	0.00124	---	---	---	---	---	---	0.00163	---	---	---	---	---	---	---	---	---	---	0.00811	---	---	---	ND	0.0027	0.0003	0.001	
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0015	0.005	
	September-2023	---	---	---	ND	---	---	---	0.00343 J	---	0.0176	---	---	---	---	---	---	---	---	---	---	0.00407 J	---	---	---	ND	0.003	0.01	
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00361	---	0.000609 J	---	---	0.003	0.01	
	November-2023	---	0.00607	---	0.00352	0.0212	---	0.00756	---	---	---	---	ND	---	0.00341	---	---	---	---	---	0.00387	---	---	ND	---	ND	0.003	0.003	
	December-2023	---	---	---	0.00184	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	0.0015	0.015	
	January-2024	---	---	ND	---	---	---	---	---	---	---	---	0.019	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.0015	0.005	
	February-2024	---	---	ND	---	0.00201	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	ND	---	0.0015	0.002	
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00115 J	0.0006	0.002	
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00443	---	---	---	---	---	0.004	---	---	---	---	0.0015	0.005	
	May-2024	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.0003	0.001	
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00486 J	---	0.00688 J	ND	---	ND	0.003	0.01	
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00409 J	---	---	---	---	---	0.003	0.01	
	August-2024	---	---	---	---	---	---	---	---	---	---	---	0.398	ND	---	---	---	---	---	---	---	---	---	---	---	---	0.0015	0.005	
	September-2024	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.003	0.01	
	October-2024	0.00612 J	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00306 J	---	---	---	0.003	0.01	
November-2024	0.00569 J	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.003	0.01		
December-2024	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.003	0.01	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.035 J	0.01	0.01	
February-2025	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00381 J	0.003	0.01	
Lead	November-2022	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	0.017 J	---	---	---	---	---	---	---	---	---	0.0465	0.05	
	December-2022	---	ND	---	0.0381	---	---	---	---	ND	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.012	0.02	
	January-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.006	0.01	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.006	---	---	---	---	---	---	0.001	0.001	
	March-2023	---	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.006	0.01	
	April-2023	---	---	---	---	---	---	---	---	---	0.0022	---	0.0067	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001	
	May-2023	---	ND	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005	
	June-2023	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	0.0069	---	---	---	---	---	---	---	---	---	0.005	0.005	
	July-2023	---	0.0014	---	---	---	---	---	---	0.019	---	---	---	---	---	---	---	---	---	---	---	0.0092	---	---	---	ND	0.0017	0.001	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	0.005	0.005
	September-2023	---	---	---	---	---	0.014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.013	0.01	0.01	
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0036	---	---	0.0034	---	---	0.001	0.001
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0032	---	---	0.0043	---	---	0.003	0.003
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	---	---	---	---	---	0.0015	0.015
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.004	0.004
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01
November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0561	---	---	---	---	---	---	---	---	---	---	---	---	0.0465	0.05	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Mercury	November-2022	---	---	---	---	---	---	---	---	---	---	0.00169	---	---	0.00053	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	December-2022	---	0.00051	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0008	0.0008
	January-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	May-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.004	0.004
	July-2023	---	0.000306	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	September-2023	---	---	---	0.00503	---	---	0.00312	0.00397	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	October-2023	---	---	---	---	---	---	0.00165	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0000002	0.0000002
	December-2023	---	---	---	0.00576	0.00606	---	0.00578	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.000004	0.000004
	January-2024	---	---	---	0.00484	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0004	0.0004
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0002	0.0002
	May-2024	---	---	---	0.00382	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0008	0.0008
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.000009	0.000009
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	Monitoring Event	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ		
Nickel	November-2022	---	---	---	---	---	---	---	---	---	0.0866	---	0.1344	---	---	0.173	---	---	---	---	---	---	---	---	---	0.014	0.02		
	December-2022	---	0.1722	---	0.5025	---	---	---	0.2989	---	0.1299	0.287	---	---	---	---	0.1853	0.346	---	---	---	---	---	---	---	0.014	0.02		
	January-2023	---	0.1074	---	---	---	---	---	---	---	0.1442	0.0407	---	---	---	---	0.0769	---	---	---	---	---	---	---	---	0.007	0.01		
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1726	---	---	---	---	---	---	0.001	0.001		
	March-2023	---	---	---	---	---	---	---	---	---	0.1254	0.1033	---	---	---	---	---	---	---	---	---	---	---	---	---	0.007	0.01		
	April-2023	---	---	---	---	---	---	---	---	---	0.1143	---	0.1732	---	---	---	---	---	---	---	---	---	---	---	---	---	0.001	0.001	
	May-2023	---	0.113	---	---	---	---	---	---	---	0.09726	0.05657	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005	
	June-2023	---	---	---	---	---	---	---	---	---	---	0.05978	---	0.05892	---	0.07161	---	---	---	---	---	---	---	---	---	---	0.005	0.005	
	July-2023	---	0.09872	---	---	---	---	---	---	0.08332	---	---	---	---	---	---	---	---	---	0.1576	---	---	---	---	0.03074	0.01403	0.001	0.001	
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.02029	0.005	0.005	
	September-2023	---	---	---	0.5152	---	---	---	---	0.09673	---	---	---	---	---	---	---	---	---	0.2387	---	---	---	---	---	0.0513	---	0.01	0.01
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2019	---	---	0.09206	---	---	---	0.001	0.001	
	November-2023	---	0.1178	---	0.4227	0.1242	---	0.07791	---	---	0.05944	---	---	0.1493	---	---	---	---	---	0.2492	---	---	0.1332	---	---	0.05277	0.01	0.01	
	December-2023	---	---	0.6091	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1447	---	---	---	---	---	---	---	0.005	0.005	
	January-2024	---	---	---	0.06308	---	---	---	---	---	---	0.04911	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0326	0.005	0.005	
	February-2024	---	---	0.07945	---	0.07013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.09174	---	0.06183	---	---	0.005	0.005	
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.02232	0.002	0.002	
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1319	---	---	---	---	---	---	---	---	---	---	---	0.08678	0.005	0.005
	May-2024	---	---	---	0.3136	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1139	---	---	---	---	---	---	---	0.001	0.001	
	June-2024	---	---	---	---	---	---	---	---	---	0.0538	---	---	---	---	---	---	---	---	0.2065	---	0.07835	0.09235	---	---	0.02884	0.01	0.01	
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.211	---	0.07664	---	---	---	---	0.03166	0.01	0.01
	August-2024	---	---	---	---	---	---	---	---	---	---	0.1917	0.03634	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.005	
	September-2024	---	---	---	0.396	---	0.1008	0.1138	---	---	---	---	---	---	---	---	---	---	0.08772	---	---	0.0822	---	---	0.02104	---	0.01	0.01	
	October-2024	0.07251	0.115	---	0.3536	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05751	---	---	---	---	---	0.01	0.01	
	November-2024	0.03879	0.09665	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
December-2024	---	---	---	0.2964	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.03528	0.01	0.01		
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01	
February-2025	---	0.09275	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01		
													ND													0.0465	0.05		

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Selenium	November-2022	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND	---	---	---	---	---	---	---	---	---	0.08	0.1
	December-2022	---	ND	---	ND	---	---	---	ND	---	ND	ND	---	---	---	---	ND	ND	---	---	---	---	---	---	---	0.08	0.1
	January-2023	---	ND	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.04	0.05
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00199	---	---	---	---	---	---	---	0.00085	0.001
	March-2023	---	---	---	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.04	0.05
	April-2023	---	---	---	---	---	---	---	---	0.00189	---	0.00185	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00085	0.001
	May-2023	---	ND	---	---	---	---	---	---	ND	0.00569	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	July-2023	---	0.00101	---	---	---	---	---	0.00331	---	---	---	---	---	---	---	---	---	0.00116	---	---	---	---	0.00251	ND	0.00085	0.001
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	September-2023	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.0085	0.01
	October-2023	---	---	---	---	---	---	0.00332	---	---	---	---	---	---	---	---	---	---	0.00186	---	0.0044	---	---	---	---	0.0085	0.01
	November-2023	---	ND	---	0.00425	0.00314	---	0.00315	---	---	---	---	---	---	---	---	---	---	ND	---	---	0.0032	---	---	---	0.003	0.003
	December-2023	---	---	---	0.00785	---	---	---	---	---	---	---	---	---	---	---	---	0.00253	---	---	---	---	---	---	---	0.0015	0.0015
	January-2024	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0017	0.002
	February-2024	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00571	---	0.00651	---	---	0.00425	0.005
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0017	0.002
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.000929 J	---	---	---	---	---	---	0.00085	0.001
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	0.0085	0.01
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01
	August-2024	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00425	0.005
	September-2024	---	---	---	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01
	October-2024	ND	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01
November-2024	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01	
December-2024	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
February-2025	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0085	0.01	
November-2022	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	2.32	2.5	
December-2022	---	ND	---	0.0187 J	---	---	---	---	---	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.02	
January-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01	
February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00006	0.001	
March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.01	
April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00006	0.001	
May-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005	
June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005	
July-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00006	0.001	
August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005	
September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00025	0.001	
January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00012	0.002	
February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005	
April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00012	0.002	
May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.005	
June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.0005	
August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
October-2024	ND	ND	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
November-2024	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
February-2025	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0006	0.01	
February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00232	0.0025	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
Zinc	November-2022	---	---	---	---	---	---	---	---	ND	---	0.032	---	---	0.694	---	---	---	---	---	---	---	---	---	---	0.02	0.02	
	December-2022	---	0.208	---	29.7	---	---	---	0.162	---	0.0686	0.75	---	---	---	---	0.364	0.286	---	---	---	---	---	---	---	0.02	0.02	
	January-2023	---	0.133	---	---	---	---	---	---	0.15	0.074	---	---	---	---	0.0752	---	---	---	---	---	---	---	---	---	0.01	0.01	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0851	---	---	---	---	---	---	---	0.0025	0.005	
	March-2023	---	---	---	---	---	---	---	---	0.0689	0.0538	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.01	
	April-2023	---	---	---	---	---	---	---	---	0.0539	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005	
	May-2023	---	0.079	---	---	---	---	---	---	0.0635	0.0519	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0125	0.025	
	June-2023	---	---	---	---	---	---	---	---	---	0.0538	---	0.0253	---	0.945	---	---	---	---	---	---	---	---	---	---	0.0125	0.025	
	July-2023	---	0.0488	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0714	---	---	---	---	---	0.354	0.0782	0.0025	0.005
	August-2023	---	---	---	---	---	---	---	2.03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0125	0.025	
	September-2023	---	---	---	---	---	5.92	---	1.71	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.914	---	0.0125	0.025
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0788	---	---	---	---	---	---	0.025	0.05	
	November-2023	---	0.0471 J	---	---	0.0534	---	0.74	---	---	0.053	---	---	0.0618	---	---	---	---	0.0722	---	---	633	---	---	0.0313 J	0.005	0.01	
	December-2023	---	---	---	30.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	January-2024	---	---	---	52.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.25	0.5	
	February-2024	---	---	0.117	---	---	---	---	---	---	0.0974	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0261	0.0125	0.025	
	March-2024	---	---	0.0879	---	0.0554	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.475	---	0.809	---	0.0125	0.025	
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	0.0565	---	---	---	---	0.0539	---	---	---	---	---	---	0.0025	0.005	
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	June-2024	---	---	---	---	---	---	---	---	---	0.165	---	---	---	---	---	---	---	0.0568	---	1.3	1.43	---	---	0.0812	0.025	0.05	
	July-2024	---	---	---	---	---	---	---	---	---	0.104	0.0451	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0125	0.025	
	August-2024	---	---	---	---	---	3.49	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	September-2024	---	---	---	0.212	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0025	0.005	
	October-2024	0.266	0.077	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	November-2024	0.0325 J	0.0367 J	---	20.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0696	0.025	0.05	
	January-2025	---	---	---	14.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.025	0.05	
	February-2025	---	0.0405 J	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.002	
													0.136													0.025	0.05	
																										0.0465	0.05	

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Concentration																											
Monitoring Event	VOLATILE FATTY ACIDS (mg/L)																											
Acetic Acid	November-2022	---	---	---	---	---	---	---	---	---	---	1600	---	---	---	---	---	---	---	---	---	---	---	---	---	25	100	
	December-2022	---	1800	---	---	---	---	---	---	---	3500	---	---	---	---	150 J	---	---	---	---	---	---	---	---	---	62	250	
	January-2023	---	ND	---	---	---	---	---	---	ND	4400	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	62	250	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	500	
	March-2023	---	---	---	---	---	---	---	---	ND	640	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	
	April-2023	---	---	---	---	---	---	---	---	1200	---	520	---	---	---	---	---	---	---	---	---	---	---	---	---	370	500	
	May-2023	---	990	---	---	---	---	---	---	1800	3000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	370	500	
	June-2023	---	---	---	---	---	---	---	---	---	5900	---	4100	---	5000	---	---	---	---	---	---	---	---	---	---	750	1000	
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	150	200
		---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	370	500
	August-2023	---	---	---	---	---	3300	---	6100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	750	1000
	September-2023	---	---	---	7400	---	---	---	5300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4200	ND	500
	October-2023	---	---	---	---	---	3200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	370	500
	November-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	500
		---	---	---	---	4950	---	6650	---	---	---	5350	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	2000
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	660	---	---	---	---	---	---	---	---	100
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	---	11200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000
	February-2024	---	---	4410	---	---	---	---	---	---	---	5290	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
		---	---	3130	---	3530	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1250
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1250
		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500
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July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	
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August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1250	
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September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	
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October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	
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November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	
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December-2024	---	960	230	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	
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January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	
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Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ		
Parameter	Monitoring Event	Concentration																								LOD	LOQ	
VOLATILE ORGANIC COMPOUNDS (ug/L)																												
2-Butanone (MEK)	November-2022	---	---	---	---	---	---	---	---	3510	---	---	---	---	1140	---	---	---	---	---	---	---	---	---	---	30	100	
	December-2022	---	3140	---	---	---	---	---	---	---	---	15600	---	---	---	---	---	---	---	---	---	---	---	---	---	300	1000	
	January-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	100	
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	300	1000	
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	600	2000	
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	100	
	May-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500	
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500	
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500	
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3000	10000	
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200	
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	5000	
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500	
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	300	1000
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	5000
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	5000
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	5000
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	10
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	750	2500
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	150	500
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	200
																										24500	24500	



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Benzene	November-2022	---	---	---	---	---	---	---	---	---	7.4 J	---	2860	---	---	50.4	---	---	---	---	---	---	---	---	---	4	10
	December-2022	---	301	---	2960	---	---	---	---	---	6.3 J	622	---	---	---	---	1750	179	---	---	---	---	---	---	---	4	10
	January-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	100
	February-2023	---	240	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	May-2023	---	814	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	August-2023	---	824	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	250
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4	10
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.4	1
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	5
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8	20
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	50
																									24500	24500	



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Tetrahydrofuran	November-2022	---	---	---	---	---	---	---	---	309	---	---	---	---	---	176	---	---	---	---	---	---	---	---	---	100	100
	December-2022	---	151	---	---	---	---	---	---	---	---	8530	---	---	---	---	---	663	---	---	---	---	---	---	---	1000	1000
	January-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1000	1000
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	May-2023	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	100
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	10
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	50
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	200	200
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	500	500
													ND													24500	24500

Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Toluene	November-2022	---	---	---	---	---	---	---	---	---	ND	---	214	---	---	---	32.8	---	---	---	---	---	---	---	---	5	10
	December-2022	---	122	---	175	---	---	---	195	---	ND	113	---	---	---	---	113	48.3	---	---	---	---	---	---	---	5	10
	January-2023	---	122	---	---	---	---	---	---	---	8 J	139	---	---	---	---	---	35.3	---	---	---	---	---	---	---	5	10
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	224	---	---	---	---	---	---	5	10
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	May-2023	---	258	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	20
	July-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	August-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	20
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	125	250
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	5
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	January-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	10
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	125	250
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	5
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	20
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	1
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	5
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	20
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25	50
													537000													24500	24500



Historical LFG-EW Leachate Monitoring Results Summary

Well ID	EW-36A	EW-50	EW-51	EW-52	EW-53	EW-54	EW-55	EW-57	EW-58	EW-59	EW-60	EW-61	EW-62	EW-64	EW-65	EW-67	EW-68	EW-78	EW-82	EW-85	EW-87	EW-88	EW-94	EW-98	LOD	LOQ	
Parameter	Monitoring Event	Concentration																								LOD	LOQ
Xylenes, Total	November-2022	---	---	---	---	---	---	---	---	---	ND	---	185	---	---	---	37.8	---	---	---	---	---	---	---	---	10	30
	December-2022	---	161	---	222	---	---	---	186	---	ND	112	---	---	---	---	197	59.9	---	---	---	---	---	---	---	10	30
	January-2023	---	138	---	---	---	---	---	---	---	ND	134	---	---	---	---	---	38.1	---	---	---	---	---	---	---	10	30
	February-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	March-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	April-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	May-2023	---	274	---	---	---	---	---	---	441	230	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	June-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	July-2023	---	---	---	---	---	---	---	---	---	---	---	92 J	---	136 J	---	---	---	---	---	---	---	---	---	---	50	150
	August-2023	---	257	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	September-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	October-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	November-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	750
	December-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	15
	January-2024	---	56	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	February-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	15
	March-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10	30
	April-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	May-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	June-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	July-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	August-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	September-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	October-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	3
	November-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	15
	December-2024	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
	January-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20	60
	February-2025	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50	150
																										24500	24500

--- = not applicable/available

J = Parameter was detected at a concentration greater than the laboratory's LOD, but less than the laboratory's LOQ. Concentration is considered estimated.

LOD = laboratory's Limit of Detection

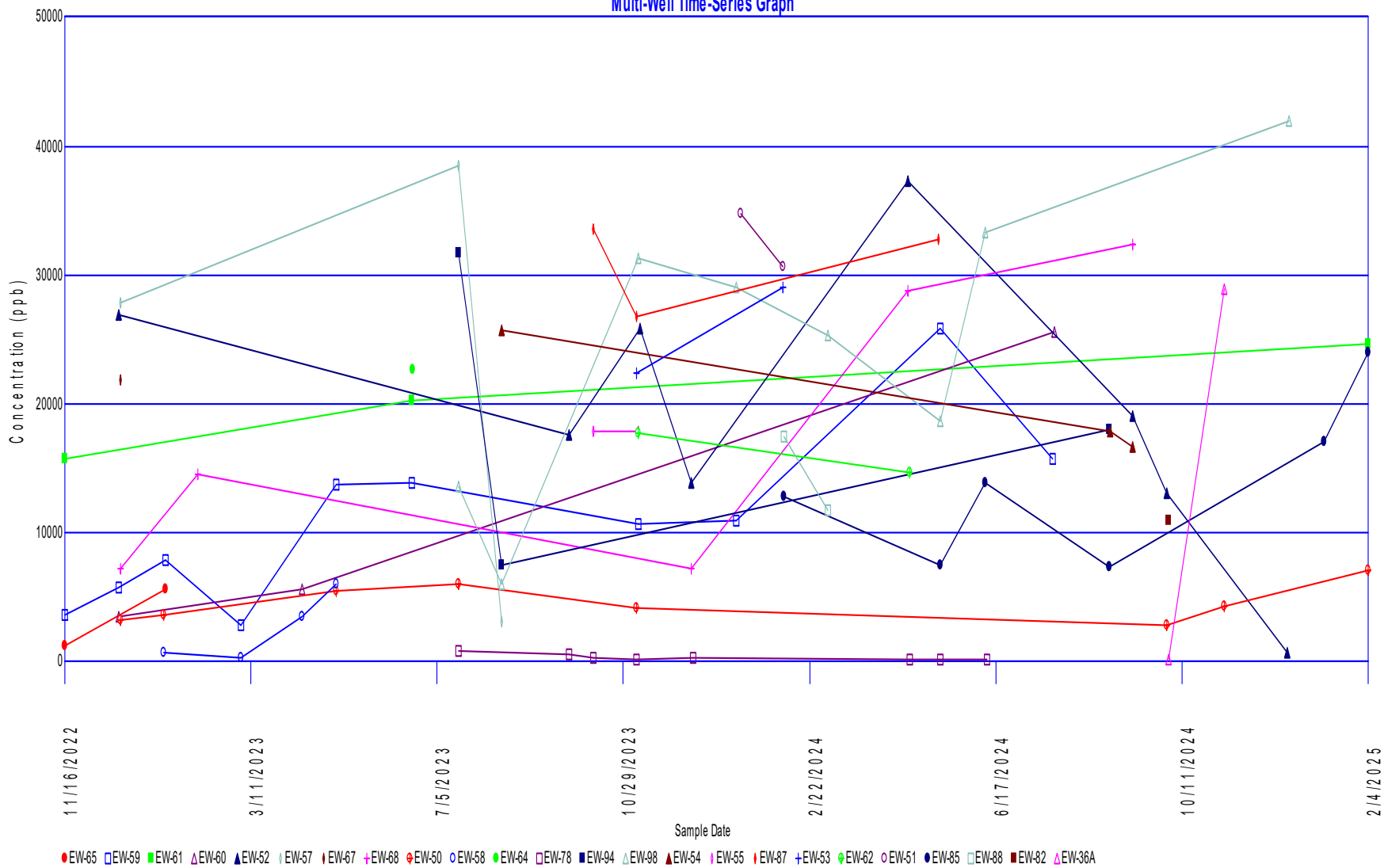
LOQ = laboratory's Limit of Quantitation

mg/L = milligrams per liter

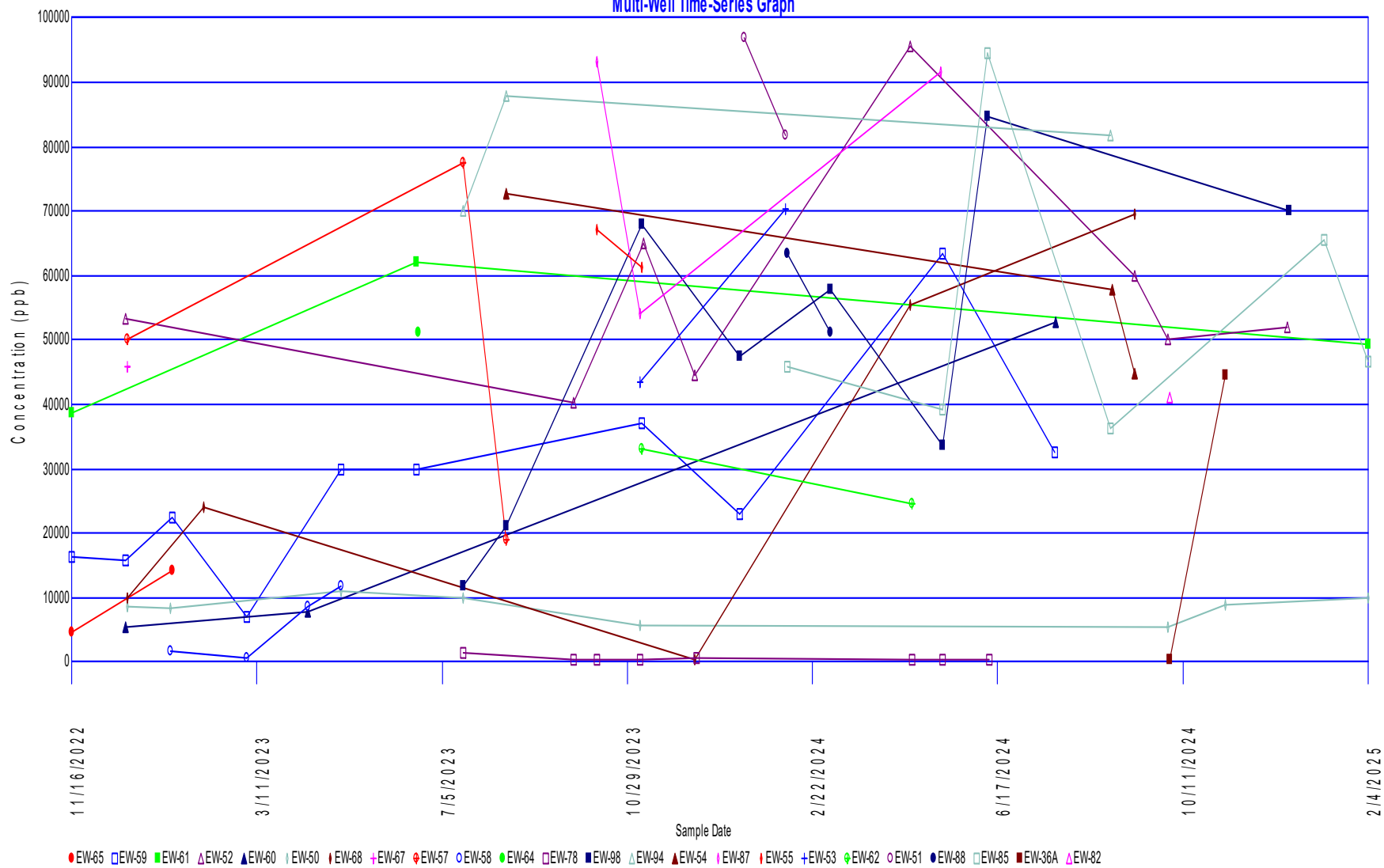
ND = Not Detected

ug/L = micrograms per liter

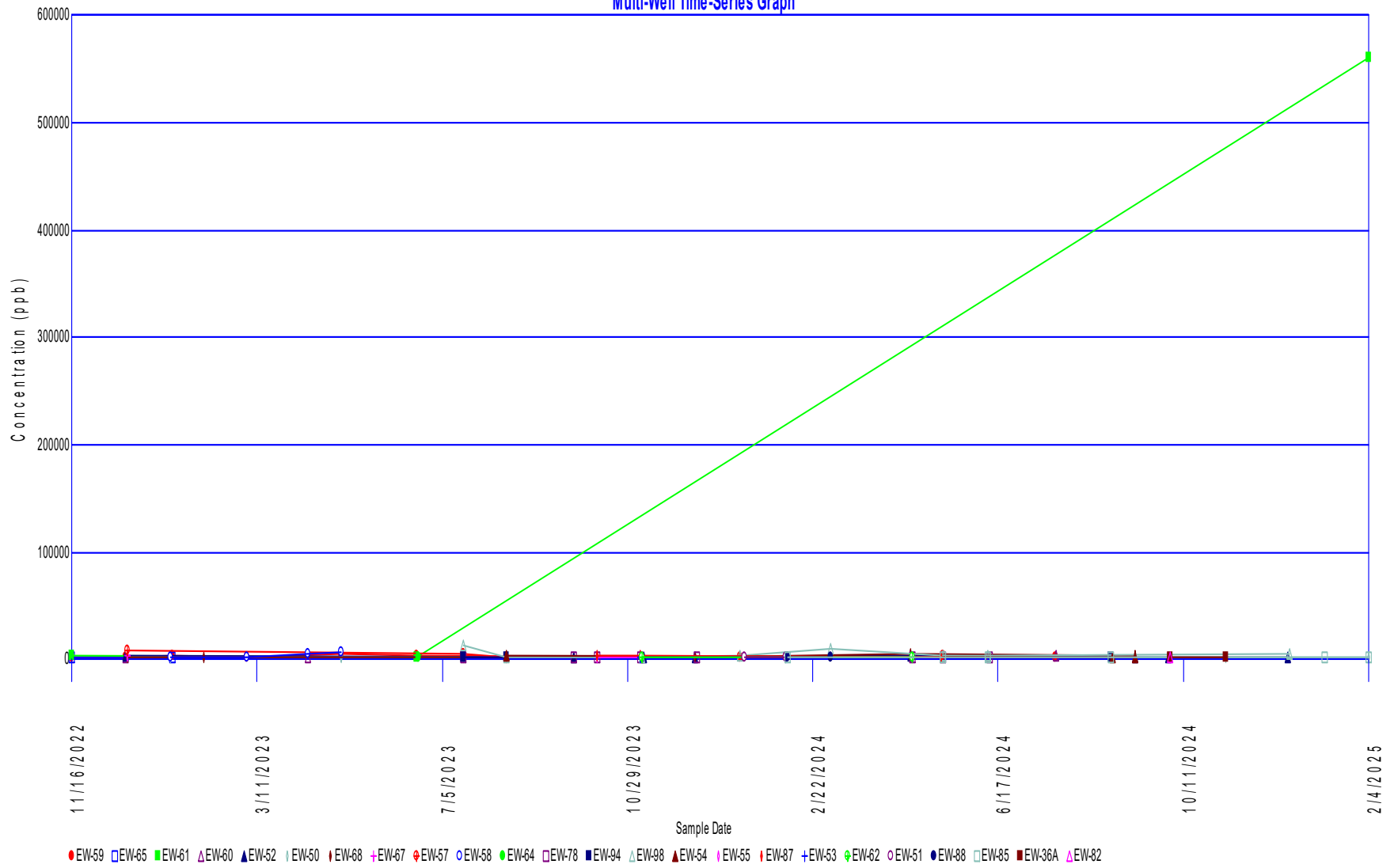
## 2-Butanone Multi-Well Time-Series Graph



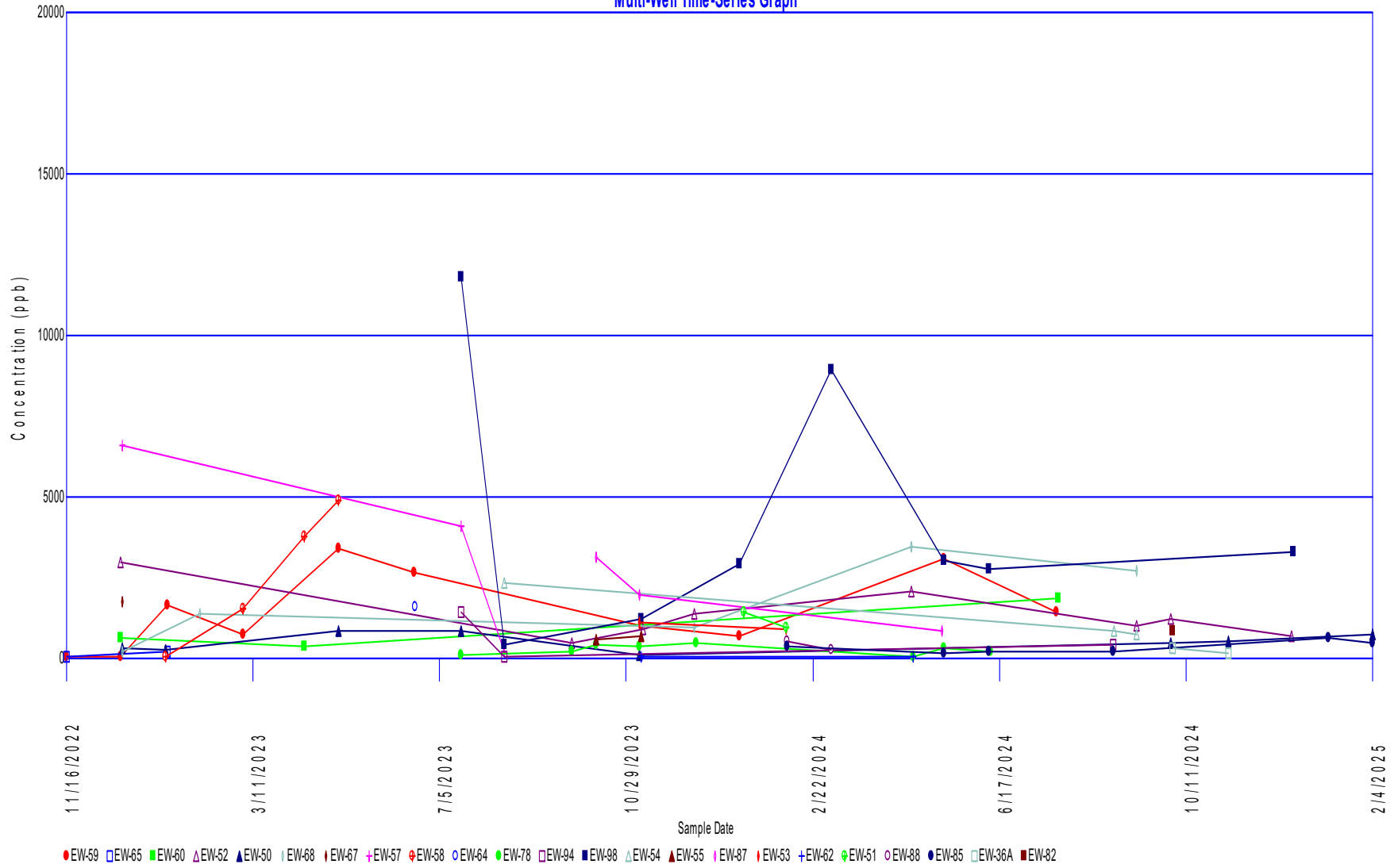
### Acetone Multi-Well Time-Series Graph



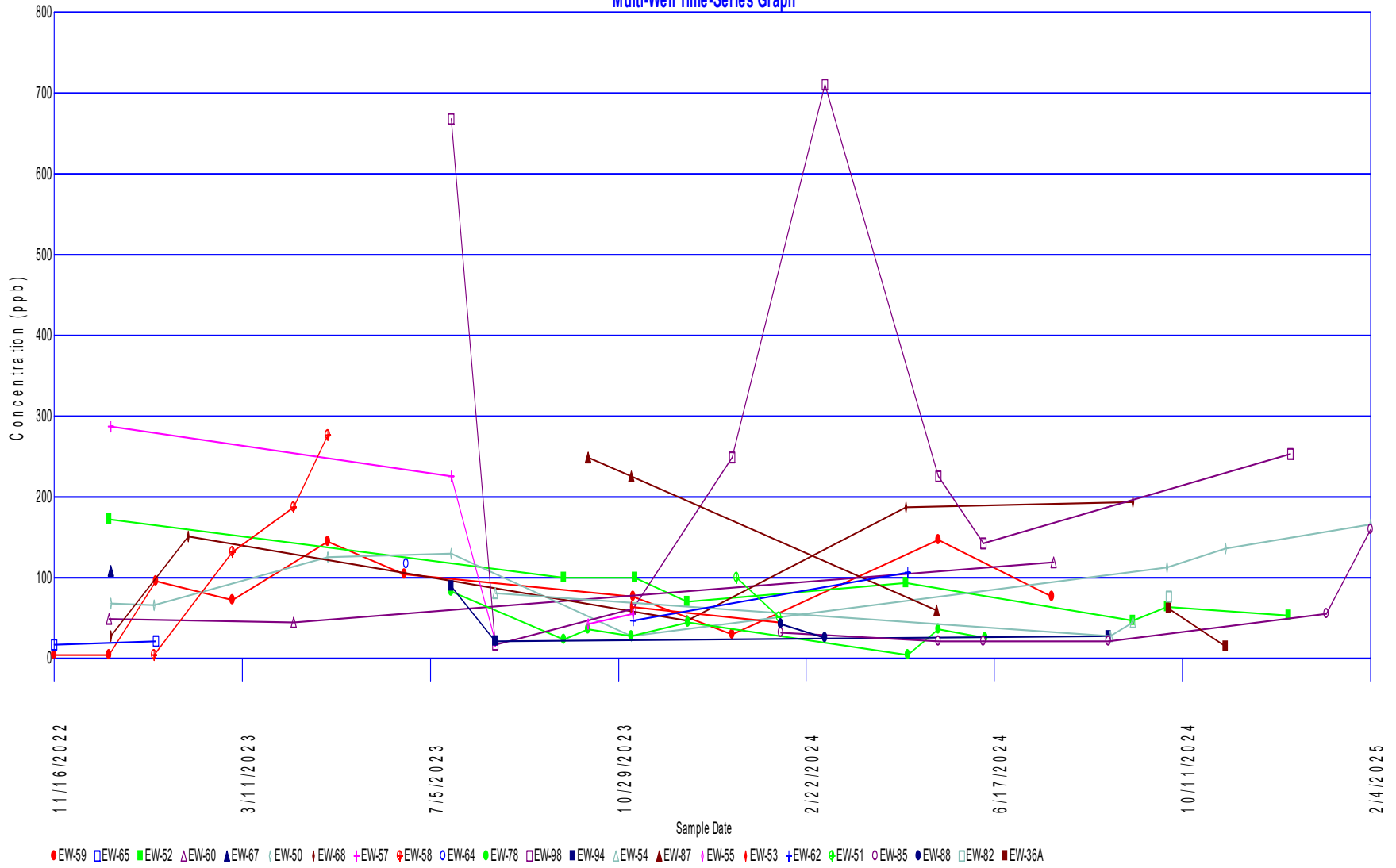
Benzene  
Multi-Well Time-Series Graph



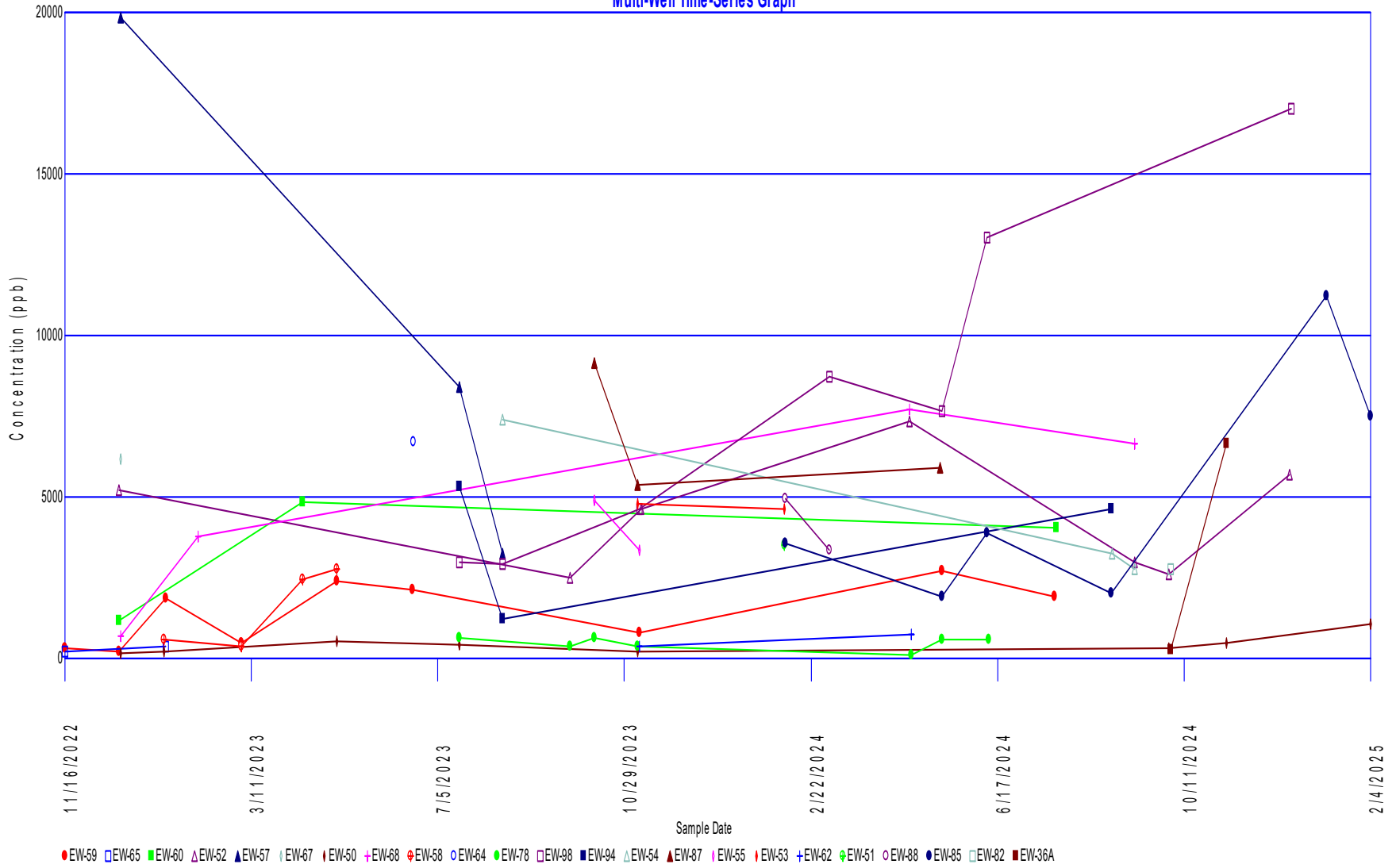
Benzene  
Multi-Well Time-Series Graph



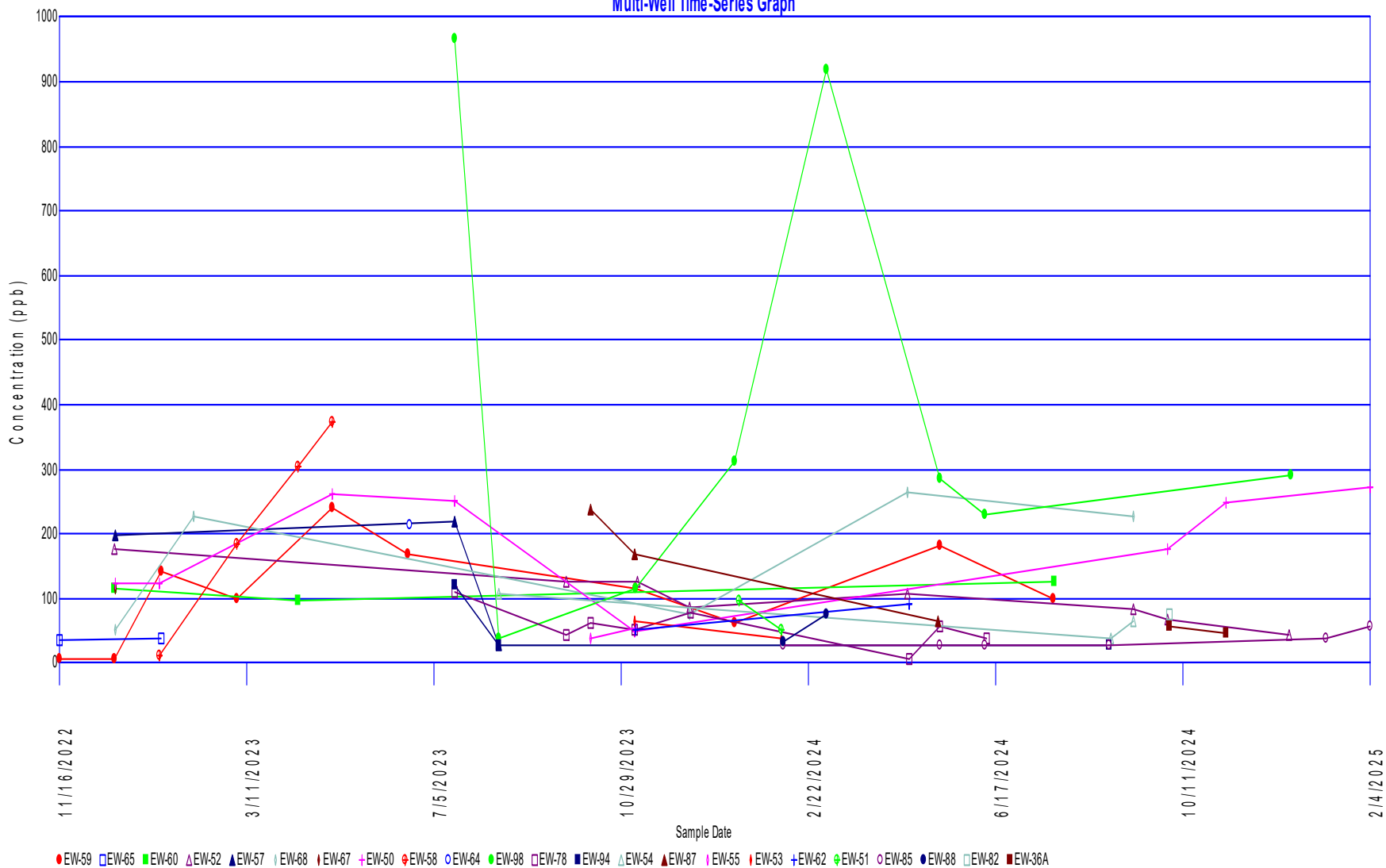
Ethylbenzene  
Multi-Well Time-Series Graph



**Tetrahydrofuran**  
Multi-Well Time-Series Graph

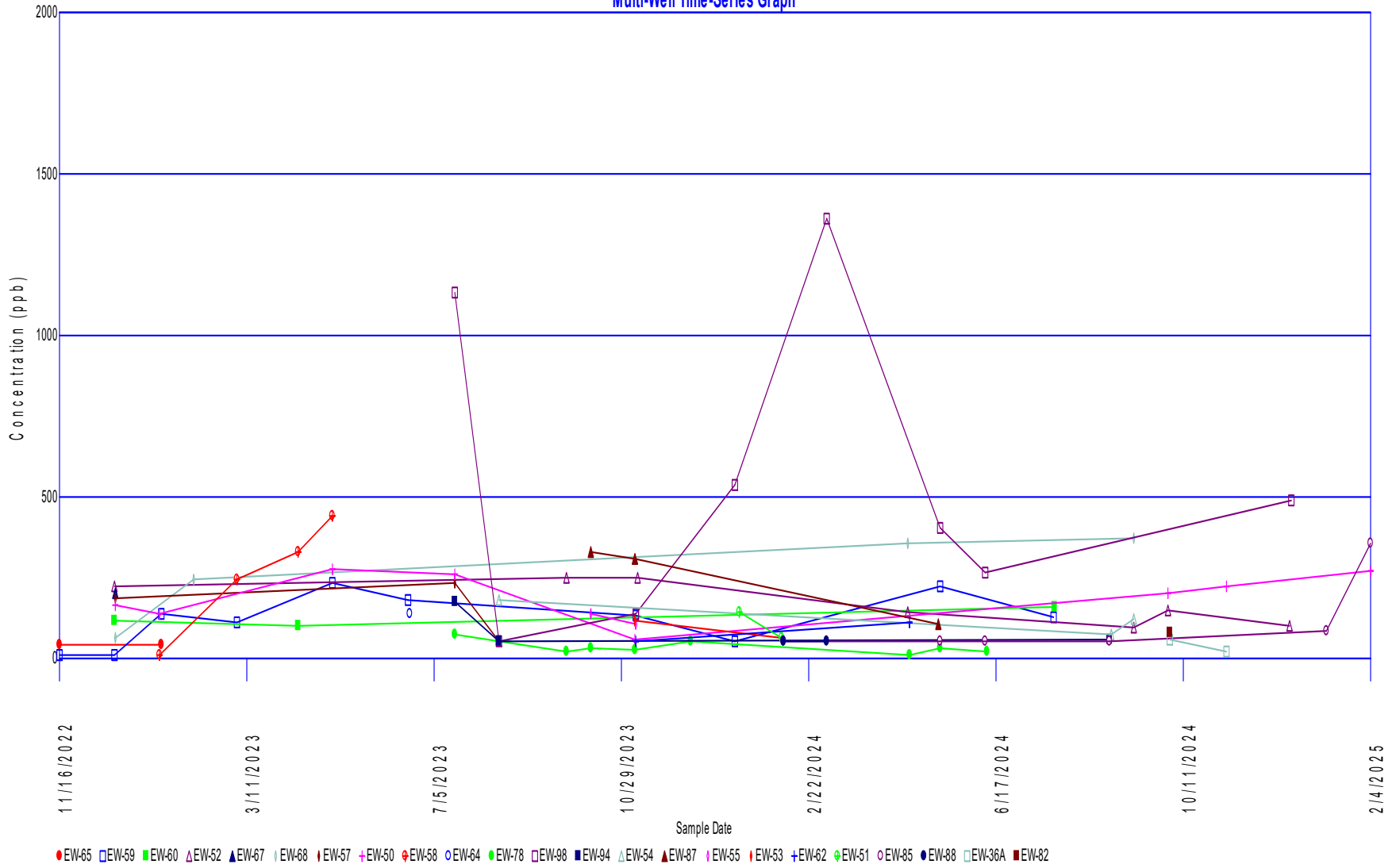


### Toluene Multi-Well Time-Series Graph





### Xylenes Multi-Well Time-Series Graph



# Appendix G

## LFG Dewatering Pump Stroke Counter Data Analysis

## Stroke Counter Data Analysis

During the monthly liquid depth measurement event and during LFG monitoring, SCS collected stroke counter data from the pumps installed in the GCCS extraction wells. These stroke counts were collected from 40 wells from January 27, 2025 to February 25, 2025. The recorded stroke count data from each well during February are included in Table G-1.

Based on the number of strokes in each well, SCS can estimate the number of gallons of liquid pumped from each well to assess pump performance. SCS assumed that each stroke from a float-style pneumatic pump correlates to approximately 0.3 gallons of liquid removed from the well. Blackhawk piston-style pumps remove approximately 0.11 gallons per stroke.

Table G - 1 Summary of Dual Extraction Well Pump Stroke Counter Data

Well	1/27/2025	2/10/2025	2/25/2025	# of strokes between measurements	Estimated liquid removed (gallons)
EW33B					
EW36A					
EW49		79565	79565	-	0
EW50	1523134	1529426	1534516	11,382	3,415
EW51				-	0
EW52	1233665	1234243	1234839	1,174	352
EW53		3294343	3294343	-	0
EW54					
EW55	73305	73361	73374	69	21
EW57					
EW59	3499376	3536776	3536795	37,419	11,226
EW60	105445	108078	120738	15,293	4,588
EW61	467510	476589	477303	9,793	2,938
EW62		214599		-	0
EW64					
EW65		77155		-	0
EW67	288743	288743	288743	-	0
EW68	2640375	2641127	2641281	906	272
EW69					
EW70					
EW74					
EW75					
EW76					
EW78		5335		2,360	264
EW81					
EW82					
EW83					
EW85	267294	279026	288416	21,122	2,366

Well	1/27/2025	2/10/2025	2/25/2025	# of strokes between measurements	Estimated liquid removed (gallons)
EW87		340749	340749	-	0
EW88		254736	254736	-	0
EW89					
EW90					
EW91					
EW92					
EW93	973173	1089912	1265449	292,276	32,735
EW94	778897	838099	963390	184,493	20,663
EW96					
EW98	1522107		1621752	99,645	29,894
Total Estimated Liquid Removal					108,732